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Journal for the Hospital Staff Officer

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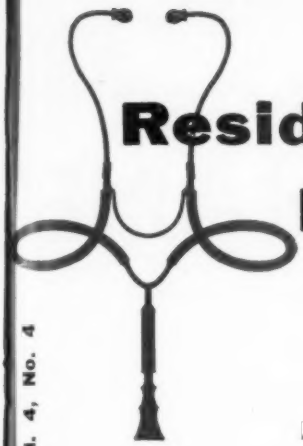

Resident Physician

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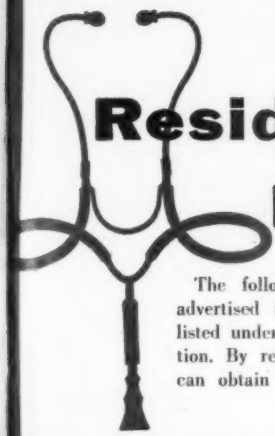
1. Wright, I. S.: Early use of anticoagulants in treatment of myocardial infarction, J.A.M.A. 163: 918-921, March 16, 1957. 2. Council on Pharmacy and Chemistry: New and Nonofficial Remedies, Philadelphia, J. B. Lippincott Co., 1956, p. 505.



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simple, effective conception control

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RECEPTIN®
vaginal gel

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(Advertisement)

Disposable Syringe Medication

A Review of Advantages and Three Outstanding Examples

AN INCREASED TREND toward the acceptance and use of disposable syringe medication is evident in hospitals throughout the country. Many "standard" hospital parenteral products are now being offered in this relatively new dosage form by pharmaceutical firms. Consideration of some of the advantages of disposable items helps to account for this increasing demand.

Assured Sterility

Since some manufacturers (*e.g.*, Organon) supply a completely sterile disposable needle and syringe with the cartridge of medication, the danger of inducing infectious hepatitis or pyrogenic responses in patients is greatly reduced. In addition, the disposable units may also reduce the incidence of serum sickness and anaphylactoid reactions in hospital personnel. Protection is afforded the person preparing the injection, since no withdrawal of a needle from a vial is necessary. Thus there is little risk of puncturing or scarifying his skin.

Expedites Medication and Charges

The time consumed by nurses and pharmacists in preparing injections is greatly reduced through use of disposable units, since these are always ready for immediate use. This allows nurses to spend more time in actual patient care. In addition, since the disposable unit is completely used up after each injection, the patient need not be charged for a full multiple-dose vial nor need the hospital pharmacy assume the loss for a partially used vial.

No Waste

Precision dosages are assured in the disposable units. This decreases waste of medicament, facilitates inventory control, and increases the efficiency of the hospital pharmacy. In addition, central supply operating costs are reduced through fewer syringe breakages, and reduced need for washing, assembling, sterilizing and storing hypodermic equipment.

Better Patient Psychology

Patient comfort and well-being are increased when the patient becomes aware that the needles are used only once and discarded. In addition, each needle is new, burr-free, and sharp, minimizing the pain on injection.

Economy

Some manufacturers (*e.g.*, Organon) price their disposable units so that the hospital pays only the cost of the medication itself plus the manufacturer's cost for the disposable needle and syringe. This helps make medication administered in disposable units economical, and, when the other advantages of disposable units are considered, a real advance over the use of standard hypoderm equipment with multiple-dose vials.

In line with the trend toward increased hosp tal usage of disposable syringe medicati Organon Inc. of Orange, New Jersey, a pharm ceutical firm with more than two decades' exper ence in the manufacture and marketing of quali parenteral products, recently introduced three its hospital products in disposable unit form These products are Cortrophin®-Zinc, Liquaemin Sodium, and Adrestat® (F). Each of these pro ucts is available in a package containing a 1- cartridge of medication and a sterile B-D®* Di posable Syringe. The packaging of this Organo disposable unit is unique in that the needle an syringe are packaged in a sterile plastic ba assuring sterility to the moment of use.

Cortrophin-Zinc is Organon's exclusive aqueo suspension of long-acting corticotropin (ACTH with zinc hydroxide. It provides therapeuti ACTH activity for far longer periods than ca be obtained with ACTH in any other vehicle. I disposable units, Cortrophin-Zinc 1-cc cartridge are available in two strengths: 40 U.S.P. uni of ACTH per cc, which provides ACTH activit for 72 or more hours, and 20 U.S.P. units ACTH per cc, which provides ACTH activity fo 36 or more hours. With its wide range of indica tions (over 100) Cortrophin-Zinc in disposabl unit form is a valuable hospital item.

Liquaemin Sodium (Heparin Sodium) is Amer ica's first and finest heparin. Its usefulness in th prophylaxis and treatment of thromboembol and atherosclerotic disease is well established. I disposable units, Liquaemin Sodium 1-cc car tridges contain 20,000 U.S.P. units of hepari sodium (approx. 200 mg.) in aqueous solution This strength and form of Liquaemin provide prolonged anticoagulant activity equal to tha of the same concentration of heparin in gelatin and without the inconveniences of a gelati menstruum.

Adrestat (F) is Organon's systemic hemost (Carbazochrome Salicylate) indicated in the pre vention and control of bleeding and oozing. I disposable units, Adrestat (F) 1-cc ampuls co tain 5 mg. of adrenochrome semicarbazone (a 130 mg. carbazochrome salicylate**). This form of Adrestat (F) is particularly useful in emer gency clinics and for pre- and post-operative use

Further information on these three product as well as extra copies of this article for us in presenting the advantages of disposable syring medication to Formulary or Therapeutics Com mittees may be obtained by writing to Hospit Sales Department, Organon Inc., Orange, N.

*T.M. Reg. Becton, Dickinson & Co. **U.S. Pat. Nos. 2,581,850; 2,506,

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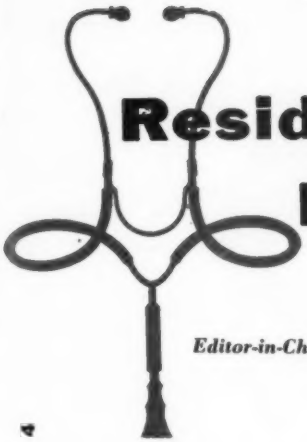
Journal for the Hospital Staff Officer



Resident Physician

April 1958, Vol. 4, No. 4

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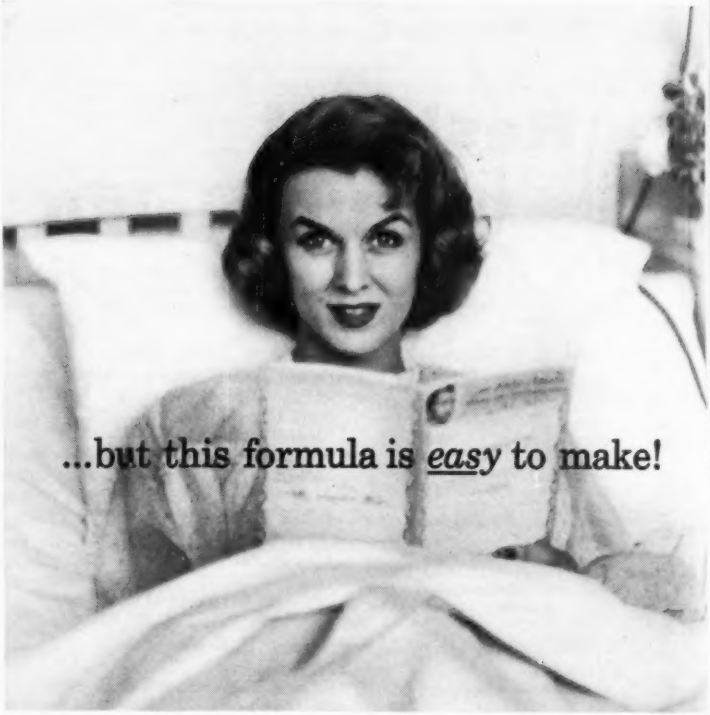

New mothers sometimes think preparing an evaporated milk formula is more complicated than proprietary formulas.

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This gives the infant the advantages of his own evaporated milk *prescription* formula, readily adjustable to meet his changing nutritional needs – a *flexibility* not possible with proprietary formulas.

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"FROM CONTENTED COWS"

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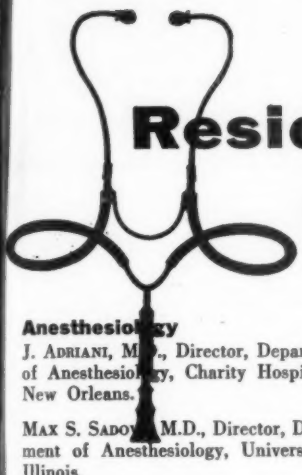

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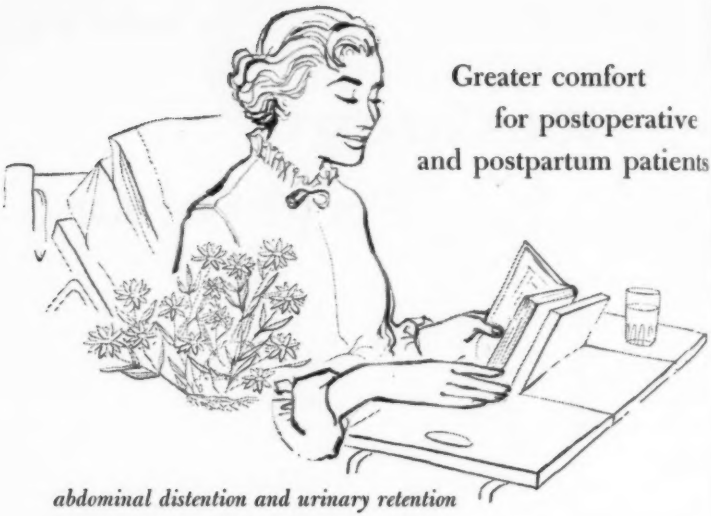

Greater comfort
for postoperative
and postpartum patients

abdominal distention and urinary retention
can often be prevented or promptly relieved
—with less need for uncomfortable enemas and catheters

Urecholine.

Chloride
(Bethanechol Chloride)

'Urecholine' helps restore normal function after surgery and childbirth by increasing the muscular tone of the gastrointestinal and urinary tracts. Postoperative "gas" pains can frequently be prevented or promptly relieved—with less need for uncomfortable enemas, intubation, and suction apparatus. Micturition is facilitated—without the discomfort and risk of infection inherent in catheterization.

Administration and dosage: may be given prophylactically or therapeutically after surgery or childbirth. Usual oral dosage: 10 to 30 mg. three or four times daily. Usual subcutaneous dosage: 5 mg. three or four times daily.

Other indications: gastric atony and retention following vagotomy and other surgical procedures; chronic functional urinary retention due to atony without obstruction; megacolon, including congenital megacolon (Hirschsprung's disease); certain cases of paralytic ileus; to counteract side effects of antihypertensive ganglionic blocking drugs.

Supplied: 5 mg. and 10 mg. tablets, bottles of 100; 1-cc. ampuls containing 5 mg.

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(Penicillinase Injectable,* SchenLabs)

NEUTRAlizes PENicillin, the causative allergen

- **acts within an hour, lasts up to a week**[1,2]
- **one injection usually sufficient in cases seen early**[3,4]
- **itching abates promptly**[6]
- **most reactions clear in 12 to 96 hours**[3]
- **well tolerated**[1,2]
- **may be lifesaving in certain anaphylactic reaction cases**[4,5]†

The new purified injectable penicillinase, NEUTRAPEN, aborts penicillin reactions. Current therapy—antihistamines, ACTH or steroids—treats effects. NEUTRAPEN counteracts the cause by neutralizing the penicillin itself, offering a new concept of treatment that promises safer penicillin therapy.

penicillin levels at zero 4 to 7 days[1,2] The action of NEUTRAPEN is specific, rapid and long-lasting. It inactivates circulating penicillin within an hour after injection, and continues effective for four to seven days.[1,2]

"highly effective"[3] NEUTRAPEN effected prompt and complete clearing of reactions in 45 of 52 cases reported by Zimmerman.[3] Given in the first month, one injection of NEUTRAPEN usually cleared the reaction in 12 to 96 hours. Becker[1,5] noted complete clearing of urticaria and angioedema within 24 to 72 hours in 42 of his 46 patients. Minno and Davis[6] reported "...prompt relief of itching...in nearly every case...," complete clearing in all 42 cases.

well tolerated[1-7] Clinically, NEUTRAPEN has been shown to be well tolerated when used intramuscularly[6] and pharmacologically "...virtually non-toxic, even at dose levels several hundred times the minimum effective dose."[2]

†**may be lifesaving** NEUTRAPEN may be lifesaving in anaphylactic reactions that occur an hour to several hours after injection of penicillin.[1,5] In such cases it "...may be given intravenously as well as intramuscularly."[1,5]

For this reason, Becker says, "...penicillinase [NEUTRAPEN] should be kept on hand in every doctor's office or hospital where penicillin is administered."[4]

indications

Therapeutic: NEUTRAPEN is indicated in all cases of penicillin reaction except the immediate type of anaphylactic reaction.

Prophylactic: When drugs and vaccines (notably polio vaccine) which contain small amounts of penicillin are given, it is recommended that NEUTRAPEN be administered concurrently to patients (1) who are known to be sensitive to penicillin, and (2) who have a history of allergy.

dosage and administration NEUTRAPEN, 800,000 units I.M., injected as soon as possible after symptoms of penicillin reaction appear. If necessary, dosage may be repeated at 3-day to 4-day intervals. In anaphylactic reactions 800,000 units should be given intravenously as soon as possible, followed by 800,000 units intramuscularly.

contraindications and side effects No specific contraindications. Some soreness at the site of injection, which may be accompanied by erythema and local edema, may be noted in some patients, but it is transient and not serious. The intravenous use of penicillinase has been reported to cause chills and fever in some cases.

supplied NEUTRAPEN is supplied in single-dose vials containing 800,000 units of purified injectable penicillinase as lyophilized powder. It is stable at room temperature in the dry state.

references (1) Becker, R. M.: New England J. Med. *254*:952, 1956. (2) Chen, J. Y. P.; Bard, J. W., and Balsito, A. A.: Antibiotics Symposium, Oct. 3, 1957. In press. (3) Zimmerman, M. C.: Antibiotics Symposium, Oct. 3, 1957. In press. (4) Becker, R. M.: 106th Ann. Meet., A.M.A., New York, N. Y., June 5, 1957. (5) Becker, R M.: Antibiotics Symposium, Oct. 3, 1957. In press. (6) Minno, A. M., and Davis, G. M.: J.A.M.A. *165*:222, 1957. (7) Davis, G. M.: Discussion, Antibiotics Symposium, Oct. 3, 1957.

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SchenLabs SCHENLABS PHARMACEUTICALS, INC.
NEW YORK 1, N. Y. 52458

Viewbox Diagnosis

Edited by Maxwell H. Poppel, M.D., F.A.C.R.,
Professor of Radiology, New York University College of Medicine
and Director of Radiology, Bellevue Hospital Center

What Is Your Diagnosis?

1. Tuberculosis
2. Villous synovitis
3. Neurotrophic joint
4. Simple Dislocation

Answer on page 202

release from pain
and inflammation with

BUFFERIN® IN ARTHRITIS

salicylate benefits with minimal salicylate drawbacks

Rapid and prolonged relief—with less intolerance. The analgesic and specific anti-inflammatory action of BUFFERIN helps reduce pain and joint edema—comfortably. BUFFERIN caused no gastric distress in 70 per cent of hospitalized arthritics with proved intolerance to aspirin. (Arthritics are at least 3 to 10 times as intolerant to straight aspirin as the general population.[1])

No sodium accumulation. Because BUFFERIN is sodium free, massive dosage for prolonged periods will not cause sodium accumulation or edema, even in cardiovascular cases.

Each *sodium-free* BUFFERIN tablet contains acetylsalicylic acid, 5 grains, and the antacids magnesium carbonate and aluminum glycinate.

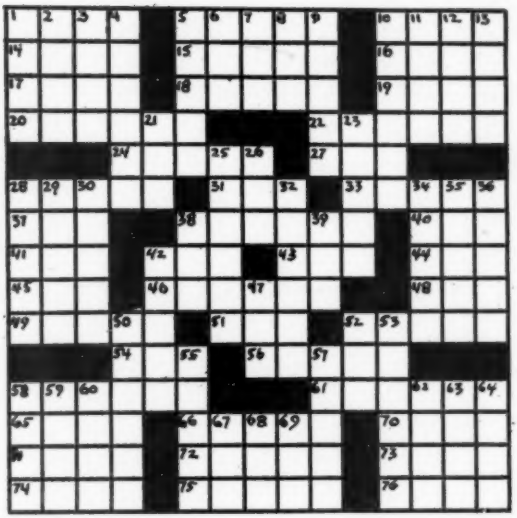
Reference: 1. J.A.M.A. 158:386 (June 4) 1955.

ANOTHER FINE PRODUCT OF BRISTOL-MYERS

Bristol-Myers Company, 19 West 50 Street, New York 20, N. Y.

Resident Relaxer

(Answer on Page 201)



ACROSS

Nevus
Protective Sac
Silver chloride
Famous Author (Abbr.)
Open sore
A girl's name
Cut adhesions
Bone of the forearm (pl.)
Baby carriage
Mulct
Brief writings
A drop (Lat.)
—ogy, Funeral oration
Pedunculated growth
Mercuric sulfide
Mosquito
I have (contr.)
Nearsighted
Eggs
What your thighs form when you sit down
Barrier
Radon, potassium (symbols)
Re-position a fractured bone
Before
Eye (Lat.)
Hydrocarbon (Suffix)
Concentrated aqueous solution of sugar
Baglike organ
Urinary findings in chronic nephritis
Used in golf
Procreate
A small empty space or cavity
Highly pleased
Pertaining to the wing of the nose
Claw
A roentgenogram
Knee
Eaten away
Ionium samarium (symbols)
Evening (pl.)
Kidneys (Lat.)
Imitated

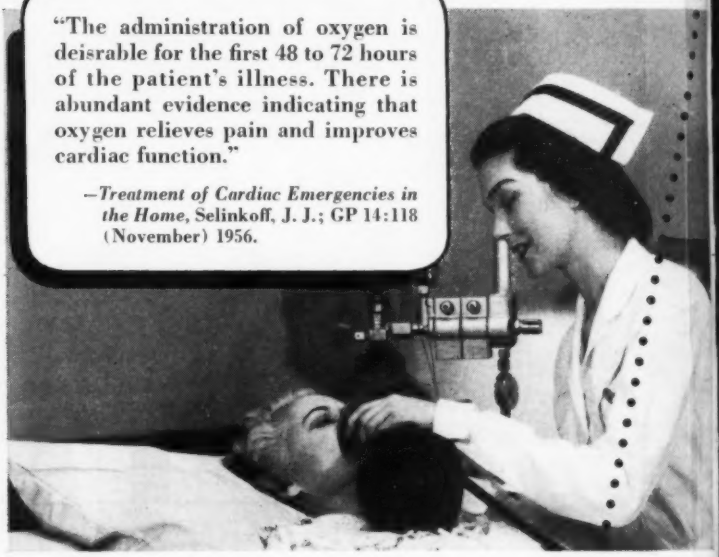
DOWN

The cheek bone
Technical name or term
Mislay
Capacity for performing work
Graduated glass cylinder
6. The gum; gingiva
7. Relative cardiac dullness (abbr.)
8. Selenium, iodine (symbols)
9. Get up from sleep
10. Sealed glass container for medications
11. Convolutions of the cerebral cortex
12. Public louse
13. Escapes (slang)
21. Optic nerve head
23. Charlatan
25. Controversial gland
26. In the past
28. Hemorrhoids
29. Gonad
30. One with Hansen's disease
32. An evergreen tree
34. Measured quantities of medicine
35. Occurrence
36. Satisfies
38. Macerate (abbr.)
39. Favored ones
42. Opiates
47. The home of research
50. Womb
52. A unit of velocity
53. Failure of muscular co-ordination
55. Compound formed from an alcohol and acid by removal of water
57. Hereditary factors in the chromosome
58. Violent anger
59. Elevation (abbr.)
60. Walking stick
62. Prefix denoting relation to atropine
63. Soothe
64. A double chromosome
67. Exist
68. Longitude (abbr.)
69. Suffix denoting sugar

In cardiac emergencies ..... O_2

"The administration of oxygen is deisrable for the first 48 to 72 hours of the patient's illness. There is abundant evidence indicating that oxygen relieves pain and improves cardiac function."

—*Treatment of Cardiac Emergencies in the Home*, Selinkoff, J. J.; GP 14:118 (November) 1956.



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The most widely prescribed broad-spectrum antibiotic now potentiated with glucosamine, the enhancing agent of choice.

Cosa-Tetracyn is supplied in capsules, 250 mg., bottles of 16 and 100; and half-strength capsules (125 mg.) for long-term therapy or pediatric use, bottles of 25 and 100.

1. Carlozzi, M.: Antibiotic Med. & Clin. Therapy *5*:146 (Feb.) 1958.

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Pfizer

Letters to the Editor

Unsigned letters will neither be published nor read. However, at your request your name will be withheld.

Cookbook View

. . . Here are a few terms that Dr. Jablokow missed: "horseshoe kidney" (for luck), lesions the size of a "nickel, dime or quarter" (depends on the coin of the country), and enlargements of "one finger's breadth, two fingers, three fingers .. " (yours, mine or the patient's).

B. R. Limoggio, M.D.
New York, N. Y.

. . . When Dr. Jablokow compiles his cookbook I hope he doesn't forget to include "cottage cheese" as a measure of consistency. . . .

Richard C. Smith, M.D.
Detroit, Michigan

Unfortunately, some readers have gained an incorrect impression of my attitudes concerning the terms used in my article "A Cookbook View of Medicine" (RP January 1958). It was not my contention that "cookbook terms" were to be preferred to precise measurement and exact description. The latter, when exact terminology is required, are always preferable to such comparisons as mentioned in my article. I hope too many readers didn't get the idea that I was in any way criticizing scientific measurement. I intended the article to be in the nature of humor with the hope that readers would understand the extent to which "cookbook terms" could be used appropriately and when terms of exact measurement must be used to insure absolute accuracy.

Victor R. Jablokow, M.D.
Hines, Illinois
VA Hospital

Foreign Graduates

I note that you are publishing a series of articles entitled "Licensure for Foreign Graduates" (pp. 139 et seq. of your December issue). I am

—Continued on page 36

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by generalists and specialists

METICORTEN®

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a standard steroid
overwhelmingly acclaimed
by

- ...**Internists** in rheumatoid arthritis, rheumatic fever and systemic lupus erythematosus
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- ...**Ophthalmologists** in uveitis, choroiditis and chorioretinitis
- ...**Dermatologists** in pemphigus, erythema multiforme, atopic eczemas and contact dermatoses
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and by general practitioners for virtual absence of salt retention

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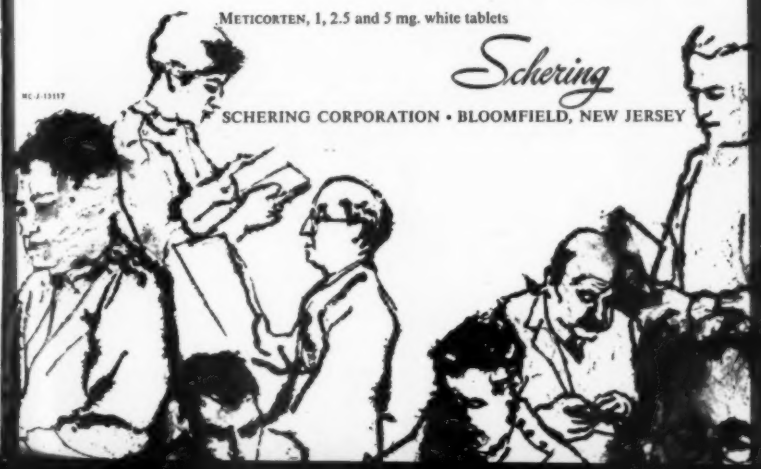

—Continued from page 30

writing to inquire whether you have reprints of these articles, and if so I should be glad to receive copies as they would be useful in this hospital.

Mrs. Elizabeth Anderson
Librarian
State Hospital at Butner
Butner, N.C.

Baby . . . Baby . . . Baby . . .

In a "Letter to the Editor" in February 1958 RESIDENT PHYSICIAN, a Mrs. Bernard Cohen wrote you asking for a reprint of an article "describing some clever maneuvers to cut the costs of a new baby." I, too, would appreciate a reprint of the article. My husband is an intern and as you can well imagine, we would sincerely appreciate any helpful suggestions in order to prepare for our "first-born" whose arrival we expect in a few months. . . .

Mrs. C.F.M.
Cleveland, Ohio

. . . Concerning the cutting of costs of a new baby: my husband and I are going to be parents late this summer and we'd appreciate a reprint of the article on babies. . . .

Mrs. Y.G.
St. Louis, Mo.

—Continued on page 44

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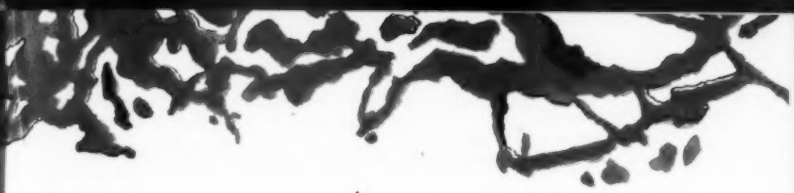

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—Continued from page 36

. . . Expecting a baby shortly. I would thank you for a reprint of the article. . . .

H. A., M.D.

Philadelphia, Pa.

. . . cutting the cost of a new baby? How? Could we have a reprint, too?

Mrs. T.B.T.

Chicago, Ill.

. . . We are also in a family way and would appreciate a reprint of the baby budget article. . . .

R. C., M.D.

Boston, Mass.

Can't you print the baby article again? Other articles, too — which were published two or three years ago?

Roy E. Landis, M.D.

Minneapolis, Minn.

• *To all house staff parents-to-be, our congratulations. We bow to the baby boom. See next month's RP for the article on babies and budgets.*

Public Health

Thank you very much for sending me RESIDENT PHYSICIAN, which I have found very interesting. I have recently arrived and settled in this country from my former home in Scotland, and am attempting to obtain a license to practice in this country. I have recently attempted one of the State Board examinations and this has underlined for me a difficulty I had previously recognized in obtaining information about certain matters. In the examination on Public Health, questions came on 1) the voluntary agencies concerned with cardiovascular disease, 2) the health organization of unions. Neither subject was considered in the textbook I was advised to read. Where can information of this sort be most easily acquired? It occurred to me that there must be many people in my position to whom such information would be of value.

On page 160 of your November issue, there is a reference to Hill-Burton hospitals. What are Hill-Burton hospitals? This reminds me that in another State Board examination a question came up in which the candidate was required to list all the types of hospitals found in the United States, and in each case to give the conditions for admission and the means of support. This would obviously be a rather difficult question for a foreign graduate to answer. I shall be grateful for whatever help you can give me.

Name withheld

Albany 8, N. Y.

• *Your confusion about the various public health, voluntary and union health organizations concerned with the practice of medicine is understandable. Yet, there are many official, quasi-official and lay programs you will be dealing with in private practice; it is reasonable that some State Boards require at*

—Concluded on page 50

For bacterial diarrheas—new effectiveness . . .

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Dye is completely adsorbed.

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- WELL-TOLERATED

—Concluded from page 44

least a fundamental knowledge of these subjects. We cannot refer you to a standard textbook in which this information has been adequately presented, but your hospital librarian should be able to assist you with a list of organizations. The term "Hill-Burton hospitals" refers to those hospitals to which the federal government, under the Hill-Burton Act, has contributed funds for establishment or expansion of facilities. The purpose of this Act was to stimulate hospital construction after the war. Write the U.S. Department of Health, Education and Welfare for information.

Social Security

Could you give me pertinent information concerning possible coverage of residents in general, as well as federal, hospitals such as those of the Veterans Administration by Federal Social Security? Are residents as hospital employees eligible for this type of coverage? Thank you for any information you may be able to give me in this matter.

Name withheld
New Haven, Conn.

• *According to the Social Security Act as amended, under Section 210, which carries a reference to interns and residents, interns are never to be covered under Social Security regardless of the following rules which apply to residents: Residents and other personnel under the direction of a hospital are subject to Social Security withholding if 1) their salary is more than $600 per year, and 2) the hospital has entered into a Social Security agreement.*

Private hospitals operated for profit must take out Social Security. Hospitals operated by public funds, however, such as city, county, state and some community hospitals, may, at their own option, enter into agreements for coverage under Social Security. VA hospitals are exempt from Social Security in that they have their own pension and retirement fund under the Veterans Administration. Residents in Armed Forces hospitals are covered under Social Security.

As you are connected with a state hospital, presumably your hospital, with the approval of the state board of hospitals and the Social Security Administration, could come under provisions of Social Security if so desired. For example, all the municipal hospitals in New York City were recently included under a Social Security agreement. Residents and assistant residents in New York City hospitals are now contributing to Social Security.

Perrin H. Long, M.D.

Editor's Page

New Rules for Foreign Doctors

Since World War II, and especially in the last eight or nine years, more and more physicians who have been educated in environments other than those which are typically Anglo-Saxon, have been seeking entry to the house staffs of hospitals in this country, and many have been accepted as interns or residents, because under the Hill-Burton Act, hospital beds have increased at a rate far out of proportion to the increase of graduates from our medical schools during the same period of time. Hence a real shortage of interns has developed. To get willing hands to do the service work, some hospital authorities have been proselyting, recruiting, accepting, and on occasion almost shanghaiing house staff into the various services of their hospitals.

The net result of these practices has been a certain degree of chaos. Hospitals have received house staff who have had a sketchy medical education, and who have little knowledge of the English language; on the other hand, very vocal interns and residents, who have excellent medical backgrounds have been beguiled, be-

witched, and swindled by proprietary and low-rated voluntary hospitals in this country.

This situation has not redounded to the credit of American medicine, nor to that of American hospitals. In fact, in certain areas, it has become an open scandal—known in the United States, and abroad as well. In many areas, the hospitals of the United States were getting a black eye from the activities of certain hospitals to make profits for their stockholders.

This situation was very unsatisfactory, and about 1955, a number of professional and regulatory bodies in this country, got together to try to work out a system under which American hospitals would benefit more from the services of foreign house staff, and foreign physicians would be benefited more by their training in this country.

While both aims are currently in the purview of the Cooperating Committee for the Evaluation of Graduates of Foreign Medical Schools, an analysis of the initial aims of this committee, shows definitely that its main concern is *(as it should be for the present)* the raising of the standards for the acceptance of alien graduates of foreign medical schools as interns and residents in hospitals of the United States.

The editors of RESIDENT PHYSICIAN are fortunate to be able to present in this issue, an authoritative paper on this subject by Dr. Dean F. Smiley, Executive Director of the Educational Council for Foreign Medical Graduates, in which the historical background, the current problems, and the plan for the solution of the problem is outlined. This should be *must* reading for many directors or superintendents of hospitals, and for all who are interested in house staff procurement.

Perrin H. Long.

A New Answer for an Old Problem

Educational Council for Foreign Medical Graduates

This new program will help foreign medical graduates with good training and ability to become certified and enter programs of higher education in medicine in the United States in much the same way as do graduates of American medical schools.

Dean F. Smiley, M.D.
Executive Director

The problem of making possible the international exchange of physicians has long been a knotty one. If the physicians interested in this exchange only wished to take didactic courses, participate in non-clinical research, or act as observers of on-going clinical work there was no particular problem. But, if the exchange physician wanted to handle patients and participate in active clinical work, as most exchange physicians do, many questions immediately arose.

To state the problem from the angle of an American hospital administrator, how could a hospital or clinic in considering an application from abroad assure itself that the exchange physician was a bona fide graduate of a recognized medical school, licensed to practice in his own country and possessed of medical knowledge and a command

of English sufficient to enable him to serve with satisfaction to himself and safety to his patients in the position applied for?

Faced with the complex problems of evaluating foreign credentials, interpreting foreign licensure practices, checking command of English, and examining to determine the knowledge of medicine, many hospitals in the years previous to World War II gave it up as a bad job and limited their internship and residency appointments to graduates of American medical schools.

Revised thinking

In the years since World War II many changes have taken place, however, and many hospitals have had to revise their thinking regarding foreign medical graduates as house officers.

Stimulated by federal and state funds since 1946, our American hospitals have grown rapidly in bed capacity and in their need for interns and residents. The medical schools in this same period have, without federal support, not been able to expand and increase their output of graduates on a scale commensurate with that of the hospitals. As a result the hospitals have found themselves in recent years in the position of having about twice as many internships and residencies to be filled each year as there are American medical graduates to fill them.[1]

Since World War II there has also been a growing tendency of foreign medical graduates in certain areas of the world to look to the United States for their advanced training in medicine, much as in the early years of this century American physicians looked to Europe.

Exchange

In 1948 the U. S. State Department set up regulations for an Exchange Visitor plan to operate under provisions of Section 201 of the United States Information and Educational Exchange Act of that same year. Under these regulations Exchange Visitor visas can be issued to foreign medical graduates to come to the United States to obtain practical training in medicine.

The only limiting condition is that such visas can be given only to foreign physicians who have been selected for positions by sponsors of programs that have been designated as Exchange Visitor Programs by the Department of State.

As the result largely of these three forces, our American hospitals reported in 1956-57 that they had 6,741 foreign medical graduates on Exchange Visitor visas occupying internships or residencies. (Approximately another 1,000 foreign medical graduates were working in our

1. The actual figures as of September 1, 1957 showed that our American medical schools had graduated 6,796 physicians in the preceding year but our hospitals were offering 12,404 internships and 31,252 residencies in that same year.

hospitals on Immigration Visas.) Of those on Exchange Visitor visas 2,293 came from the Far East, 1,487 from Latin America, 1,451 from Europe, 822 from the Near and Middle East, 576 From Canada, 81 from Africa and 27 from Oceania.[2]

Were all these foreign medical graduates carefully scrutinized to determine with certainty that they were bona fide physicians? Was their command of English and their knowledge of medicine tested to assure that they were properly prepared to make the best use of the educational opportunity offered and were really ready to undertake the complex duties and responsibilities of the intern or resident in a modern American hospital? The answer is no. Hospital administrators assure us that they have done their best to choose well qualified foreign medical graduates but that adequate means of evaluating previous training, command of English, and knowledge of medicine have just not been available. The results have thus of necessity been variable and therefore as a whole unsatisfactory.

An attempt

In February 1950 the Council on Medical Education and Hospitals of the American Medical Association, and the Association of American Medical Colleges published a list of foreign medical schools whose graduates they recommended for consideration on the same basis as graduates of approved medical schools in the United States.

The data upon which this list was based were largely obtained from medical educators well known to both these Councils, who had visited these foreign schools in the course of their travels abroad and been favorably impressed by the teaching programs they had observed. It was, however, admittedly a fragmentary list, assembled in a somewhat haphazard manner and was obviously unfair to the schools that had never happened to be visited. It was apparently with a great sense of relief that both sponsors of this list voted at their recent meetings on February 7, 1958 to withdraw it as of January 1, 1960.

Solution

The new solution to be described has been jointly planned over the past three years by representatives of the American Hospital Association, the American Medical Association, the Association of American Medical Colleges and the Federation of State Medical Boards of the United States working as the Cooperating Committee for the Evaluation of Graduates of Foreign Medical Schools under the chairmanship of Dr. Donald Anderson, Dean of the University of Rochester School of Medicine and Dentistry.

Under this plan the Educational

2. "Open Doors 1957" — a report on international exchange. Institute of International Education, Inc., 1 East 67th St., New York 21, N. Y., June 1957.

Council for Foreign Medical Graduates was set up and began operations October 1, 1957 in offices at 1710 Orrington Avenue, Evanston, Illinois.

The first function of the newly organized ECFMG will be to serve as a center of *information* for foreign medical graduates planning on coming to the United States for study. Available on request, without charge, are such publications as the following:

1. The Directory of Approved Internships in American Hospitals.
2. The Directory of Approved Residencies and Fellowships in American Hospitals.
3. Facts for Foreign Medical Graduates Planning Advanced Training in Hospitals of the United States.
4. Fact Sheet (describing the ECFMG).
5. The American Medical Qualification Examination (describing the ECFMG's examination to be given world-round, twice each year).
6. Application Form (for evaluation of credentials and permission to take the A. M. Q. Examination).

Supplementing these basic publications will be others dealing with the special problems of the foreign medical graduate contemplating coming to the United States on an Immigration Visa, the American student considering taking his undergraduate medical training in a foreign medical school, the foreign medical graduate considering a visit to the U. S. in the interest of a research project he is pursuing.

Perhaps even more important than the publications are the personal letters, interviews and telephone calls made in answering individual inquiries.

Evaluation

The second function of the ECFMG will be to provide a standardized *credential evaluation* service. No effort will be made to evaluate the teaching program of the school from which the foreign medical graduate comes. But every effort will be made to insure that every candidate admitted to the American Medical Qualification Examination has had at least 18 years of formal education, 4 or more of which have been in a medical school listed in the World Health Organization's "World Directory of Medical Schools" (1957 edition).[3]

Proper documentation of claims, in the form of certified copies or photostated copies of diplomas, licenses and important certificates are routinely required. These are permanently filed at the ECFMG office as the evidence upon which the candidate was judged eligible

3. "World Directory of Medical Schools". World Health Organization, Geneva, Switzerland, 1957. Obtainable from Columbia University Press—International Documents Service, 2960 Broadway, New York 27, N. Y. $5.00.

for admission to the A. M. Q. Examination.

Submission of the original documents, and confirming letters from deans are in some cases requested and in occasional instances of missing documents of displaced persons, secondary evidence such as course books, catalogues and confirming letters are accepted. English translations of documents are not asked for. Signature, notarized photographs and an affidavit as to the authenticity of the claims and documents are, of course, required.

English

The third function of *evaluation of command of English* is accomplished in two ways. At the time the candidate takes the A. M. Q. Examination the proctor reads to the group in English a typical history of a medical case in the words of a patient. Each candidate makes such notes as he likes and then is required to write in English a brief summary of that history as he would write it in the chart of a hospital patient. This roughly checks the candidate's ability to understand spoken English and to write English. His ability to comprehend written English is amply tested in his choice of the right answers in the 400 questions making up the A. M. Q. Examination. (The ability to speak minimal English is a requirement of the State Department for obtaining an Exchange Visitor visa to come to the U. S. for advanced study.)

Medicine

The fourth function is that of the *evaluation of* the foreign medical graduate's *knowledge of medicine.* This is accomplished through the administration of the American Medical Qualification Examination which will be given twice each year, Spring and Fall, in approximately 50 medical schools located in the United States and in foreign medical schools around the world. It is a 400-question, multiple-choice, objective-type examination given all on one day consisting of approximately 100 to 140 questions on medicine, 200 questions on surgery, pediatrics, obstetrics and gynecology, and 60 to 100 questions on the basic medical sciences.

The questions for these examinations are selected by the ECFMG's Examinations Committee of six from a large pool of questions that have been used and evaluated for their effectiveness in examining hundreds of American medical students in National Board or State Board examinations. Many of the questions have also been tested on a small sample of foreign medical graduates in this country.

When the answer sheets have been machine scored and the analyzed results of the examination are available, the ECFMG's Examinations Committee meets a second time to review the scores and determine the standards to be adopted for reporting the results. (Candidates who fail the first time may try again; a

third trial requires the special permission of the Board of Trustees of ECFMG and this will be given only when the candidate presents evidence that he is taking special training, either in medicine or English, which should be definitely helpful.)

Certification

The fifth function of the ECFMG is that of *certification*. The foreign medical graduate who passes the three-way appraisal is given an ECFMG certificate. This certifies:

- He has submitted credentials proving he has at least 18 years of formal education, 4 or more of them in a medical school listed in the WHO Directory of Medical Schools.
- his command of English is such as to enable him to take a good medical history from an English-speaking patient and write it in acceptable English.
- he has a knowledge of medicine sufficient to enable him to pass the American Medical Qualification Examination.

Support

The four sponsoring agencies were so anxious to see this new service get under way that they loaned $25,000 to the ECFMG to set up its physical headquarters, become incorporated and get its legal status properly established.

The Kellogg Foundation and the Rockefeller Foundation jointly contributed funds estimated to be sufficient to take the new organization through its first two formative years.

It is hoped that eventually, through fees paid by the foreign medical graduate (for the information service, evaluation service and certification supplied him), and through fees paid by hospitals, clinics and medical schools (for the assistance given them in evaluating the qualifications of the graduates of the 543 foreign medical schools who apply for positions) the ECFMG may become self-supporting.

The initial fee schedule calls for the foreign medical graduate to pay $15 for the evaluation of his credentials and $35 for taking the American Medical Qualification Examination. Since, however, American dollars will not be available to many such candidates in their own country, they will not be expected to pay until they have passed the Examination, received a position and are earning American dollars. Hospitals, clinics, medical schools, etc., receiving newly evaluated foreign medical graduates will be expected to pay $75 for each such candidate.

Certificate value

The four sponsoring agencies of the ECFMG will recommend to hospitals, state boards of medical examiners and specialty boards that an ECFMG Certificate be considered evidence

- that the holder is in possession

of medical knowledge comparable to that possessed by current graduates of American medical colleges.

- of the quality of the teaching program of the medical school the certificate holder attended, at the time of his attendance.

State boards, specialty boards and hospitals will vary in the weight they will give to the ECFMG Certificate. Some state boards will accept it as the basis for admission to their own licensing examination without question. At the other extreme will be those boards who can give no weight to the Certificate since under their regulations no foreign medical graduates may be admitted to their licensing examination. At least two specialty boards have already decided to accept ECFMG certification of foreign medical graduates as meeting their requirement for graduation from an approved school. It would appear that the hospitals as a whole are rapidly availing themselves of this new service and many are planning on having all the foreign medical graduates on their staff certified by January 1, 1960.

ON AND OFF

Claude Bernard (1813-1878), French physician and a leader in experimental physiology, offered this advice to those who undertake to do research:

"Put off your imagination, as you take off your overcoat, when you enter the laboratory; put it on again, as you do your overcoat, when you leave the laboratory . . . put it right away from you during the experiment lest it hinder your powers of observation."

Licensure for Foreign Graduates

A tabulation of regulations from all states and territories

In recent months we have published a series of articles on state licensure for residents and interns who had their medical schooling in other countries. Because of the interest created by these articles, your journal has condensed this licensure information in tabular form on the following pages.

* In the chart on the following pages, "approved medical schools only" refers to whether or not the state maintains its own list of approved foreign medical schools. Most state lists are duplicates of the A.M.A. list; but this is not always the case. The physician is advised to correspond with the state about his school of graduation. Also, for full particulars on licensure requirements, the resident should write to the individual states in which he is interested. (See listing of State Medical Boards).

REQUIRING FULL CITIZENSHIP

Alabama	Kentucky	New Hampshire
California	Maine	New Jersey
Colorado	Michigan	North Carolina
Delaware	Mississippi	Ohio
Florida	Missouri	Tennessee
Georgia	Nebraska	West Virginia
Kansas		Alaska

State Medical Boards

ALABAMA
Dr. D. G. Gill, Secretary, State Office Bldg., Montgomery 4

ARIZONA
Mr. Robert Carpenter, Executive Secretary, 826 Security Bldg., Phoenix

ARKANSAS
Dr. Joe Verser, Secretary, Harrisburg

CALIFORNIA
Dr. Louis E. Jones, Secretary, 1020 N. St., Room 536, Sacramento

COLORADO
Mrs. Beulah H. Hudgens, Executive Secretary, 715 Republic Bldg., Denver 2

CONNECTICUT
Dr. Creighton Barker, Secretary, 160 St. Ronan St., New Haven

DELAWARE
Dr. J. S. McDaniel, Secretary, Professional Bldg., Dover

D. C.
Mr. Paul Foley, Deputy Director, 1740 Massachusetts Ave. N. W., Washington

FLORIDA
Dr. Homer L. Pearson, Secretary, 901 N. W. 17th St., Miami 36

GEORGIA
Mr. C. L. Clifton, Secretary, 111 State Capitol, Atlanta 3

IDAHO
Mr. Armand L. Bird, Executive Secretary, 364 Sonna Bldg., Boise

ILLINOIS
Mr. Frederic B. Selcke, Superintendent of Registration, Capitol Bldg., Springfield

State Requirements

STATE	CITIZENSHIP	APPROVED MEDICAL SCHOOLS ONLY*	YEARS U.S. HOSPITAL TRAINING REQUIRED	U.S. MEDICAL SCHOOL COURSES NEEDED	ENDORSEMENT POSSIBLE	FOREIGN LICENSE NEEDED	MUST RESIDE IN STATE
ALABAMA	Full	No.[1]	1	No	Yes[2]	No	No
ARIZONA	1st Papers	Yes	1	No	Yes[2, 3, 4]	No	No
ARKANSAS			Not Eligible				
CALIFORNIA	Full	No	1 or 2[5, 6]	No	Yes	Yes	No
COLORADO	Full	Yes	1	No	No	No	No
CONNECTICUT	1st Papers	Yes	None	No	No	No	No
DELAWARE	Full	Yes	1	Yes[7]	No	No	Yes[6]
D. C.	None	No	1	No	Yes	No	No
FLORIDA	Full	Yes	None	No	No	No	No
GEORGIA	Full	Yes	None	No	Yes	No	No
IDAHO			Not Eligible				
INDIANA	None	No[1]	2	Yes[8]	Yes	No	No
ILLINOIS	1st Papers	No	1[8]	Yes[4, 37]	No	No	No
IOWA	1st Papers	Yes	1	Yes[8]	No	No	No
KANSAS	Full	Yes	1	No	Yes	Yes	No
KENTUCKY	Full	No	5[2]	No	No	No	No
LOUISIANA			Not Eligible				
MAINE	Full	Yes	1	No	Yes	No	No
MARYLAND	1st Papers	No[1]	1 or 3[9]	No	Yes[37]	No	No
MASSACHUSETTS	1st Papers	No	None	No	No	No	No
MICHIGAN	Full	No	1	Yes[7]	Yes	No	No
MINNESOTA	1st Papers	Yes	1	No	No	No	No
MISSISSIPPI	Full	Yes	2[11]	No	No	No	No
MISSOURI	Full	No[3, 32]	1	No	No	No	No
MONTANA			Not Eligible				
NEBRASKA	Full	Yes	No	No	Yes	No	No
NEVADA			Not Eligible				
NEW HAMPSHIRE	Full	Yes	1	No	Yes[2]	No	No

1. Graduates of schools not on approved list may take examination under certain conditions.
2. If certified by the National Board of Medical Examiners.
3. Some recognition is given for U.S. military service.
4. Practice requirement (3 years) applies in some cases.
5. Only one year required if resided in state before studying medicine.
6. Must reside in the state for one year prior to application.
7. Completion of senior year in U.S. medical school required.
8. May repeat senior year in U.S. medical school in lieu of U.S. hospital training.
9. Three years U.S. hospital work if not a graduate of an approved school.
10. If graduate of "approved" school.
11. Two years study at University of Minnesota may be substituted.
12. Some recognition given to A.M.A. list.
13. Three years U.S. hospital training required if applicant does not have foreign license.

...or Foreign Graduates

STATE	CITIZEN-SHIP	APPROVED MEDICAL SCHOOLS ONLY*	YEARS U.S. HOSPITAL TRAINING REQUIRED	U.S. MEDICAL SCHOOL COURSES NEEDED	ENDORSE-MENT POSSIBLE	FOREIGN LICENSE NEEDED	MUST RESIDE IN STATE
NEW JERSEY	Full	No	1 or 3[32]	No	Yes[34]	Yes[32]	No
NEW MEXICO	1st Papers	Yes	None	No	No	No	No
NEW YORK	1st Papers	No[1, 35]	None	No[20]	No	No	No
NORTH CAROLINA	Full	Yes[35]	None	No	No	No	No
NORTH DAKOTA	1st Papers	No	1	No	No	No	No
OHIO	Full	No	1-2[17]	No	Yes	No	No
OKLAHOMA	None	Yes	1	No	No	No	No
OREGON	Not Eligible						
PENNSYLVANIA	1st Papers	Yes[28]	1[9]	None	No	No	No
RHODE ISLAND	1st Papers	No[20]	2[20]	None	Yes	No	Yes
SOUTH CAROLINA	Not Eligible						
SOUTH DAKOTA	1st Papers	No[21]	1[6]	No	Yes[21]	No	No
TENNESSEE	Full	Yes	None	None	No	No	No
TEXAS	None	No[22]	None	No	No	No	No
UTAH	Not Eligible						
VERMONT	Not Eligible						
VIRGINIA	1st Papers	No	1-2[20]	None[28]	No	No	No
WASHINGTON	None	Yes	1	None	No	No	No
WEST VIRGINIA	Full	No	1	No	No	No	Yes
WISCONSIN	1st Papers	Yes	1	No	Yes	No	No
WYOMING	Not Eligible						
ALASKA	Full	Yes	1	No	Yes	No	No
CANAL ZONE	Not Eligible						
GUAM	None	Yes	1	No	Yes	No	No
HAWAII	1st Papers	Yes	1	No	Yes[2]	No	No
PUERTO RICO	Not Eligible						
VIRGIN ISLANDS	None	Yes	1	No	No	No	Yes

14. Must have foreign license.
15. Considered on individual basis.
16. Formal postgraduate education may be needed in some cases.
17. Two years hospital training if not from approved school.
18. Schools in China and Japan not acceptable.
19. Internship must be served in state.
20. Only those legally residing in Rhode Island prior to study abroad are eligible.
21. If not from approved school may obtain temporary license to practice in "area of medical need" for four years, then apply for permanent license.
22. Limited to graduates of English-speaking schools.
23. If not from approved school, two years of U.S. hospital training or one year hospital training and one year in U.S. medical school.
24. Must reside in state for three years prior to application.
25. Must reside in state for six months prior to application.

* See note on page 65.

REQUIRE FIRST PAPERS ONLY

Arizona	Minnesota	Rhode Island
Connecticut	New Mexico	South Dakota
Illinois	New York	Virginia
Iowa	North Dakota	Wisconsin
Maryland	Pennsylvania	Hawaii
Massachusetts		

NO CITIZENSHIP REQUIREMENT

District of Columbia	Texas
Indiana	Washington
Oklahoma	Guam

INDIANA
Miss Ruth V. Kirk, Executive Secretary, 538 K. of P. Bldg., Indianapolis

IOWA
Mr. Donald V. Saf, Executive Secretary, State Office Bldg., Des Moines

KANSAS
Dr. Lyle F. Schmaus, Secretary, 864 New Brotherhood Bldg., Kansas City

KENTUCKY
Dr. Russell E. Teague, Secretary, 620 S. Third St., Louisville 2

LOUISIANA
Dr. Edwin H. Lawson, Secretary, 930 Hibernia Bank Bldg., New Orleans

MAINE
Dr. Adam P. Leighton, Secretary, 192 State St., Portland

MARYLAND
Dr. Frank K. Morris, Secretary, 1215 Cathedral St., Baltimore 1

MASSACHUSETTS
Dr. Robert C. Cochrane, Secretary, 37 State House, Boston 33

MICHIGAN
Dr. E. C. Swanson, Executive Secretary, 118 Stevens T. Mason Bldg., W. Michigan Ave., Lansing 8

MINNESOTA
Dr. F. H. Magney, Secretary, 230 Lowry Medical Arts Bldg., St. Paul

MISSISSIPPI
Dr. R. N. Whitefield, Asst. Secretary, Old Capitol, Jackson 113

MISSOURI
Mr. John A. Hailey, Executive Secretary, P. O. Box #4, Jefferson City

MONTANA
Dr. Sidney A. Cooney, Secretary, 7 W. Sixth Ave., Helena

NEBRASKA
Mr. Husted K. Watson, Director, State Capitol Bldg., Room 1009, Lincoln 9

ACCEPT GRADUATES OF "UNLISTED" SCHOOLS

Alabama	Maryland	North Dakota
California	Massachusetts	Ohio
District of Columbia	Michigan	Rhode Island[1]
Indiana	Missouri	South Dakota
Illinois	New Jersey	Texas[2]
Kentucky	New York	West Virginia

[1] Must have resided in Rhode Island prior to medical school training.
[2] Limited to graduates of English-speaking schools.

REQUIRE HOSPITAL TRAINING IN STATE

California	Pennsylvania	South Dakota
Illinois	Rhode Island	

NEVADA
Dr. George H. Ross, Secretary, 11? N. Curry St., Carson City

NEW HAMPSHIRE
Dr. Mary M. Atchison, Secretary, 107 State House, Concord

NEW JERSEY
Dr. Patrick H. Corrigan, Secretary, 28 W. State St., Trenton

NEW MEXICO
Dr. R. C. Derbyshire, Secretary, 227 E. Palace Ave., Santa Fe

NEW YORK
Dr. Stiles D. Ezell, Secretary, 23 S. Pearl St., Albany 7

NORTH CAROLINA
Dr. Joseph J. Combs, Secretary, 716 Professional Bldg., Raleigh

NORTH DAKOTA
Dr. C. J. Glaspel, Secretary, Grafton

OHIO
Dr. H. M. Platter, Secretary, 21 W. Broad St., Columbus 15

OKLAHOMA
Dr. E. F. Lester, Secretary, 813 Braniff Bldg., Oklahoma City

OREGON
Mr. Howard I. Bobbitt, Executive Secretary, 609 Failing Bldg., Portland 4

PENNSYLVANIA
Mrs. Margaret G. Steiner, Acting Secretary, Box 911, Harrisburg

RHODE ISLAND
Mr. Thomas B. Casey, Administrator, 366 State Office Bldg., Providence

SOUTH CAROLINA
Dr. H. E. Jarvey, Secretary, 1329 Blanding St., Columbia

SOUTH DAKOTA
Mr. John C. Foster, Executive Secretary, 300 First National Bank Bldg., Sioux Falls

TENNESSEE
Dr. H. W. Qualls, Secretary, 1635 Exchange Bldg., Memphis 3

REQUIRE FORMAL U.S. MEDICAL SCHOOL TRAINING

Delaware[1]	Iowa[2]	New York[4]
Indiana[2]		
Illinois[3]	Michigan[1]	Virginia[3]

[1] Requires completion of senior year in U.S. school.
[2] Requires one year in U.S. medical school if no U.S. hospital training.
[3] If not from approved foreign school.
[4] Formal study may be required in some cases.

ENDORSEMENT POSSIBLE FOR FOREIGN GRADUATES

Alabama[1]	Indiana	Nebraska	South Dakota
Arizona[1]	Kansas	New Hampshire[1]	Wisconsin
California	Maine	New Jersey[3]	Alaska
Dist. of Columbia	Maryland[2]	Ohio	Guam
Georgia	Michigan	Rhode Island	Hawaii[4]

[1] If certified by National Board.
[2] From approved school only.
[3] Must have foreign license.
[4] Graduates of English-speaking schools.

TEXAS
Dr. M. H. Crabb, Secretary, 1714 Medical Arts Bldg., Fort Worth 2

UTAH
Mr. Frank E. Lees, Director, 324 State Capitol Bldg., Salt Lake City 1

VERMONT
Dr. F. J. Lawliss, Secretary, Richford

VIRGINIA
Dr. K. D. Graves, Secretary, 631 First St. S. W., Roanoke (address correspondence to Board of Medical Examiners)

WASHINGTON
Mr. Thomas A. Carter, Secretary, Capitol Bldg., Olympia

WEST VIRGINIA
Dr. Newman H. Dyer, Secretary, State Office Bldg., No. 3, Charleston

WISCONSIN
Dr. Thomas W. Tormey, Jr., Secretary, State Office Bldg., 1 W. Wilson St., Madison

WYOMING
Dr. Franklin D. Yoder, Secretary, State Office Bldg., Cheyenne

ALASKA
Dr. W. M. Whitehead, Secretary, 172 S. Franklin St., Juneau

CANAL ZONE
Dr. Charles O. Bruce, Health Director, Balboa Heights

GUAM
Dr. S. J. Provencher, Acting Secretary, Marianos Islands, Agana, Guam

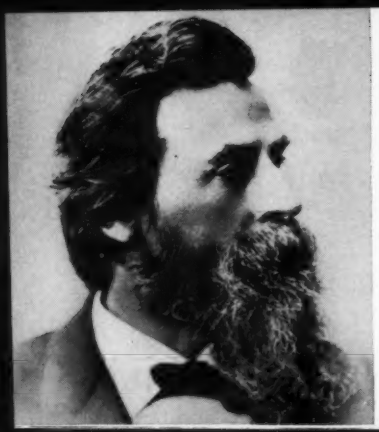
HAWAII
Dr. I. L. Tilden, Secretary, 1020 Kapiolani St., Honolulu

PUERTO RICO
Mr. Joaquin Mercado Cruz, Box 9156, Santurce

VIRGIN ISLANDS
Dr. Earle M. Rice, St. Thomas

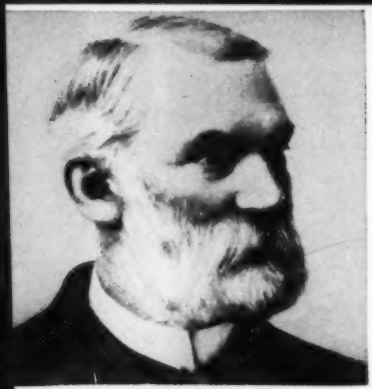
The Men Who Made the Medicine . .

Who was Parke? What did Davis do? How about Lilly, Burroughs and Wellcome, Wyeth, Eaton, Squibb, Roche, Merck, Sharp and Dohme? Was there a Mead Johnson or was it Mead *and* Johnson? Who was Smith and Kline and French? What did men like Pfizer, Robins, Searle, Winthrop, Upjohn, Lederle, Bristol and Schering actually do for the companies which bear their names? Was there a Dr. Ciba? Who were the Burns Brothers? What is known about Warner and Chilcott, Ayerst, Abbott, White, Massengill, McNeil and others whose names appear in drug company titles? The editors of RESIDENT PHYSICIAN went looking for the answers —and for the first time have brought together the fascinating, personal stories of the men who worked to establish today's pharmaceutical companies. Many never-before-published incidents in the lives of the founders of present-day drug companies are contained in these word and picture biographies. In this issue, RESIDENT PHYSICIAN brings you the second of this exclusive series of articles about the pioneers in an industry which has caused a virtual revolution in medical care and research in our time.



DRUGS fr

. Pharmaceutical Company Founders



Dr. Duffield, scientist, and Hervey Parke, businessman son of a country doctor, made ideal partners —but little money. George Davis came along to supply the sales punch needed to survive in a highly competitive field and the Detroit drug firm, "that upstart company from out West," began to establish itself as a new leader in pharmaceutical manufacture

Top to bottom: Duffield, Parke and Davis

from Detroit

On April 9, 1865 Lee surrendered to Grant at Appomattox, Virginia, ending four years of bitter and bloody war between the states. Two days later the news reached Detroit.

The city erupted in a roaring celebration. Three companies of blue-clad soldiers got things started when they marched in and, on command, fired their 200 rifles into the sky. Horses reared, women screamed and men shouted as the crashing noise gave way to the massed singing of "John Brown's Body."

Young men and women danced in the streets and strangers slapped one and other on the back, repairing to saloons to get better acquainted over glasses of whisky. Beaming bartenders announced drinks on the house.

In an official ceremony, conducted before the celebration had gotten completely out of hand, four prominent citizens addressed the crowd. One of the speakers was a man with finely-chiseled features, a flowing beard and a thick thatch of hair, carelessly combed. The ceremony over, he dodged through the dancing, singing throng, hurried to a small drug store on a downtown side street. A sign over the door identified it as "Dr. Samuel P. Duffield & Company."

Inside were the three demanding contraptions that, like children unattended, forced him to leave the wild

celebration in order to watch over them.

The man was Dr. Duffield and the contraptions consisted of a still that could produce two barrels of alcohol per day, an iron-ammonia press and a hydraulic hand press.

His advertisement in the Detroit City Directory called "special attention" to his "ether, sweet spirits of nitre, liquid ammonium, Hoffman's anodyne, etc., mercurial ointment, and blue pill mass, etc. For photographers and physicians our ether is unequalled in purity. List of prices furnished on application."

Three years earlier, in 1862, Dr. Duffield had established the first pharmaceutical manufacturing laboratory west of Buffalo, New York. They had been years of struggle and disappointment. Shipping service to Detroit was worse than poor; physicians were skeptical of this new company in a backwoods city; no hard-headed businessman would extend credit or invest capital in such a folly.

Even so, Dr. Duffield kept his business going. Ever since boyhood his dream had been a career in medicine or chemistry, and it was especially satisfying for him to start this career in Detroit, the city that had been his home since his parents moved there from Pennsylvania shortly after his birth on Christmas Eve, 1833.

He was accustomed to poor odds. Nine years earlier some of the country's best oculists told him he'd soon be blind. Not satisfied with this sentence, he quit medical school at the University of Pennsylvania and went to Berlin, Germany, for treatment.

Degree

Young Duffield was treated at the Berlin Clinic for three months, meanwhile continuing his studies at the University of Berlin. The treatments were successful, but he didn't return home.

Intrigued by the Germans' knowledge of chemistry and physics, he

studied at Maximillian University in Munich and Ludwig University in Giessen. When he returned to Detroit with his Ph.D. degree, he was determined to put his new-found knowledge to use in the business world.

But the eye treatments and his European schooling had exhausted his funds, so he took a job as head of the chemistry department at the Detroit College of Medicine. Professor Duffield stayed there just long enough to earn a degree in medicine and to save enough money to open up a small drug store.

This was the first step in his plans. The second step came several years later, in 1862, when he set up the manufacturing laboratory.

Make a showing

In 1865, when the war ended, business was still far from profit-

The original Parke-Davis laboratory—part of a program of expansion, the "immensity" of its facilities impressed one visiting reporter.

able, but Dr. Duffield managed to keep going for another year. Then he needed financial help.

On May 23, 1866, he took in A. L. Patrick as a partner for an investment of $10,000. Business then totaled about $15,000 a year, but operating expenses left no profits. Patrick had his fill of Duffield's dreams within a couple of months, and sold his interest to Francis C. Conant, a businessman who withdrew his funds from a chair manufacturing company to join the young doctor. The new partner had a favorite expression, "We must make a showing."

"Mr. Conant favored spreading out," Dr. Duffield said in later years. "He wanted improvements, fine buildings. He wasn't satisfied to go along in a modest way until we were established on a firm footing. The result of this policy was that within a few months we were $10,000 in debt. I took Conant aside and told him such a condition of affairs would never do, that we couldn't go on as we were. He became dissatisfied and on October 26, 1866, he sold out his interests . . ."

Enter Parke

The man who bought Conant's share of the company was Hervey C. Parke, Duffield's third partner in five months. This was no spur-of-the-moment speculation for the tall, scholarly-looking gentleman with the soft-spoken manner. Parke consulted frequently with Dr. Duffield before deciding to buy into the small company. At the age of 38, he was regarded by his friends and business acquaintances as "careful and conservative" and a "safe and legitimate financier."

Although Parke was the son of a Michigan country doctor, he knew little about medicine or pharmacy. His was strictly a business background except for a year spent as a schoolmaster.

At the age of 17 he was working in a Buffalo, New York, upholstery factory. The death of both his parents in a "mysterious epidemic" brought him back to Michigan two years later. Other jobs followed: clerking in a hardware store in Adrian, Michigan; school teaching, selling in a general store.

Copper country

In 1850 he became financial manager of a copper mine in upper Michigan. (He'd had trouble with his health, and a physician friend had advised him to go to the cold, dry climate.)

In 1860, when he was still at the mine, he married Fannie A. Hunt, daughter of a Michigan congressman. A year later Parke bought a hardware and general store in the nearby Portage Lake region and became one of the first settlers of the

village of Hancock in Michigan's "copper country" on the Upper Peninsula.

The store held his interest for four years, during which time his wife gave birth to two children and he served as the first village president.

In 1865 Parke sold the store and decided to move to Detroit, where business opportunities seemed more plentiful and a great deal more profitable. He booked passage early in August on the steamer *Pewabic* for himself, his wife and the children —a decision that nearly led to their deaths.

The steamer had completed over half of its 600 mile voyage to Detroit when it was rammed by another ship, the *Meteor*, on the evening of August 9.

Parke rushed with his family to the deck of the crippled *Pewabic*. They, the captain and a number of other passengers managed to scramble to the decks of the *Meteor* before the two vessels separated and the *Pewabic* slid below the surface of Lake Huron. Between 75 and 100 other passengers and crewmen were not so fortunate—they went down with the ship. The *Meteor* managed to complete the journey to Detroit without difficulty.

For nearly a year the cautious Parke investigated business opportunities in Detroit, supporting his family with the profits made in the sale of the hardware store. Then, satisfied that he was making the right move, he bought Conant's interest in Doctor Duffield's small laboratory.

Ideal partners

The partnership of Dr. Duffield

FROM THE OLD SCHOOL . . .

Hervey Parke once taught in a country school near his birthplace. Nineteen pupils in the school were older than their 21-year-old teacher, and the young men often tried to take advantage of their greater strength and stamina. An 1886 article from the *Magazine of Western History* tells how one of these pupils became belligerent and "threatened to break up the school." Parke, the teacher, decided to become Parke, the disciplinarian. He chased after his boisterous pupil, and they collided in the classroom.

"Mr. Parke readily admits that he was heavily pressed in the contest that followed," the magazine reported, "but he retired from the field with the victory in his hands, and had the satisfaction to receive from his antagonist a promise to reform, sincerely made and so far redeemed that the defeated pupil taught the same school during the following school year."

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and Hervey Parke was an ideal one. Duffield, the scientist with little business acumen, managed the manufacturing phase of the operation. Parke, the careful businessman with little scientific knowledge, handled the financial end.

But there still were problems to be solved. The eastern firms, in a move to crush this upstart company from Detroit, were extending indefinite credit to wholesale and retail druggists. To survive, Duffield, Parke & Company needed an aggressive sales program, but neither of the partners had any selling experience in the highly competitive drug industry. They looked for an aggressive salesman to handle this end and found him in 1867 in the person of George S. Davis.

Davis was small in stature, always neatly dressed and with dark hair and a dark moustache. Contemporaries said he was inclined to be dictatorial and autocratic with his employes, but an "energetic and aggressive" salesman with an "almost irresistible" selling approach.

"He was a small man, always very neat and tidy and with a very erect posture. When he walked along the street, you just knew who he was. His mannerisms told you this man was Mr. George S. Davis," one former employe wrote in his memoirs.

Davis thought big. He had progressive ideas on how to run the business, and was determined to have the name of his company make a lasting impression on clients and prospective clients alike. Once, when the firm was involved in a dispute with an important Chicago wholesale drug company, Davis sent a man there with specific instructions on how to make an impression.

"When you arrive in Chicago," Davis told him, "hire the finest team of horses you can get, with a coachman up. Keep it standing outside the customer's door all the time you are inside transacting your business."

Davis was a proud man with a proud family heritage. Both his parents could trace their American ancestry back to the English colonists; ancestors on both sides had fought in the Revolutionary War.

Progress

Young George had attended grammar and high school in Detroit, and then was given the choice of either going on to college or entering the business world. He chose the latter and joined the Detroit wholesale drug firm of Farrand, Sheley & Company as a 17-year-old sales trainee. He was only 22 when he joined Parke and Duffield, but had already established himself as a successful drug salesman who knew all the ins-and-outs of the business.

There still were no profits to

show, but Duffield, Parke & Company began making progress. New products were introduced; advertisements started emphasizing "fluid and solid extracts, sugar-coated pills, concentrations, elixirs, and syrups." Then, another difficulty developed.

Six years of working in a poorly-ventilated laboratory filled with fumes and tiny particles of chemical dust began to affect Dr. Duffield's health. His wife became ill, too, and his family needed him at home in the evenings; no longer could he spend long hours at the lab.

In addition, a change in the government tax structure took all the profits out of his pet processes for manufacturing many of the products. His prized copper apparatus was tossed out on the scrap heap, and new equipment that could perform the same functions at lower operating costs was installed.

Jennings

He began losing the enthusiasm that had kept him going for six years without one cent in profits to show for his efforts. At his suggestion, Dr. Augustus F. Jennings was brought in to handle the manufacturing end.

At this point the historical facts become sketchy. Little information can be found on Jennings' background or the position he held as a new partner.

Records show the firm was listed as Parke, Jennings & Company for a short time. Then another reorganization apparently took place, and the pa.tners were listed as Duffield, Parke, Davis, and Jennings.

Eventually Dr. Duffield left the company to go into private practice as a physician. Company records show he left on January 14, 1869.

Dr. Jennings stayed only a short time. In 1871 Parke and Davis became sole owners, and the name "Parke, Davis & Company" was painted above the door for the first time.

Under their management, the company began an era of unprecedented progress. In the summer of 1873 construction was started on a new brick laboratory along the Detroit River waterfront. (Now, 85 years later, Parke-Davis' main offices, laboratories, and research facilities totaling 65 buildings are grouped around this original location.)

Plant tour

A *Detroit Post* reporter visited the newly-opened laboratory in October, 1874, and wrote a feature on what he saw there. He described the two-story brick building as being in the shape of a "double L."

The first floor consisted of a combination boiler-and-engine room housing two boilers and a 40 horse-

power engine, a mill room equipped with mills, chasers, and other machines for chopping and reducing herbs, a drying room, a laboratory equipped with retorts, stills, steam evaporating pans, drying ovens and precipitating jars, a "press" or fluid extracting room and four store rooms.

The second floor housed a tool room and workshop, a solid extract room, a four-room pill manufacturing department, a fluid extract storeroom where 275 varieties of extracts were kept, a finishing room for packaging and labeling finished products, a finished goods storeroom, and the general offices.

Although the reporter completed the tour in less than two hours (a tour now takes about ten hours), he commented on the "immensity" of the facilities. This was long before the advent of the automobile, and Parke-Davis at that time was Detroit's biggest industry next to the stove manufacturers.

Grinning skeleton

The newsman ended his story with a few comments about the nature of the pharmaceutical industry:

"The patient is no longer compelled to swallow huge and nauseous doses, the very odor of which cause his stomach to revolt. The manufacturing chemist has proven himself the benefactor of suffering humanity . . . not only in bringing to him the healing drug, but in presenting it in a palatable shape.

"A grinning skeleton has been taken away from the bedside of the sick when the array of bottles and bowls, the very recollection of the contents of which makes one shudder with horror, gives place to the simple and palatable draught which modern science has provided."

Parke-Davis' 1874 catalog listed about 800 products, including 254 types of fluid extracts, 300 types of sugar-coated pills and granules — "Private formulae made and coated to order, when desired in lots of 3,000 and upwards" — 74 types of solid extracts, 53 concentrations, 46 medicinal elixirs, 23 medicinal syrups, 15 medicinal wines, 8 alkaloids, 9 miscellaneous products, chemically pure chloroform, and one specialty product. (Today's Parke-Davis catalog lists some 600 products including about 80 specialties.)

Research

Both partners realized their firm had to do more than merely offer a wide list of products and an unchanging catalog year after year. They agreed research was the answer, and invested large sums in organized programs.

These weren't research programs as we know them today. Chemical synthesis, biological therapy, cancer

research, clinical testing and other modern-day methods were still unheard of.

The two men remained in their conference room long after business had closed for the day, studying maps of tropical areas and conferring with botanists and explorers. Their research program consisted mainly of financing botanical expeditions searching for new vegetable drugs. The programs paid off. More than 15 new plant drugs were introduced during the first few years.

They managed to survive the money panic of 1873, but soon found themselves facing the same financial barrier Dr. Duffield had encountered six or seven years earlier. They needed outside capital to continue their progress. Davis took on the job of trying to attract Detroit financiers to invest in the firm; he became a familiar figure in downtown Detroit as he visited one businessman after another in his search for new capital.

Finally he succeeded in obtaining enough financial support to give the company a paid-in capital of about $82,000. On January 14, 1875, Parke, Davis & Company became a corporation under Michigan law with Parke as president, Davis as general manager, and three other stockholders.

Two years later, the year-end balance sheets showed net earnings of $5,264.65 — the first profits ever earned by the company. This was 14 years after Dr. Duffield had set up his still and 10 years after Parke had bought into the venture.

Profits were coming in, but still there were problems to be solved. Talking about this period, Davis once said that if one Detroit banker had decided to call in his loan, it would have meant the end of the company.

Business was confined mainly to the Midwest and the South. They had only one customer in Texas, and even a mere price inquiry from west of the Rockies was a curiosity. Physicians in New York, Boston, and Philadelphia refused to admit Parke-Davis salesmen into their offices.

In the East, the maverick manufacturers from Michigan were regarded as "that upstart company from out West."

One day in August, 1879, the entire day's sales consisted of a 40-cent order for 100 pills.

Chemical assay

Davis knew they had to accomplish something outstanding to prove themselves to the medical profession, so he tackled one of the biggest problems the industry faced at that time: the inconsistency in strength of any given drug. Physicians prescribing heart tonics or

narcotics had no assurance that any two dosages would be the same in strength and produce the same response in the patient.

Parke-Davis assigned a research scientist to work on this problem and, in 1879, made pharmaceutical history with the announcement that a Parke-Davis preparation had been standardized through chemical assay.

Meanwhile the search for new plant drugs continued. In 1880 they sent Count Hansen, a famous explorer and adventurer, to the Fiji Islands for a supply of Tonga bark and to investigate herbs used by the native medicine men. Tonga was introduced to the medical profession in 1881.

In 1885, a distinguished botanist, Dr. H. H. Rusby, was sent to South America to study medical flora and to buy coca. His discoveries resulted in the introduction of several more new products.

Manufacturing procedures were changing, too. Here's how a *Detroit Post & Tribune* reporter described his 1880 visit to Parke-Davis:

"When a consignment of roots, leaves, bark or medicinal plants is received it is placed in a capacious store room until wanted for use. Then such a portion as is wanted is ground or torn into fine fragments by peculiarly constructed mills.

"It is then placed in large tanks and quantities of alcohol poured on from time to time till the whole is thoroughly soaked and reduced to a sort of pulp. While in this condition it is placed under a powerful hydraulic press, and under a pressure of from 100 to 400 tons all the medicinal juices are removed, leaving the woody residue as dry as tinder. This fluid extract is then stored away for bottling in marketable shape.

"When a solid preparation of the drug is desired for the purposes of druggists in making pills, the drug is percolated with alcohol and after exhaustion the percolate is concentrated at a low temperature to the consistency of dough or paste.

"Solid extracts are largely used in the pill department, where in other ingredients all are most thoroughly mixed. The process of sugar coating is most interesting . . . Pills are placed in a revolving pan or cylinder, and pure sugar syrup poured over them. A current of air is forced over the sticky, revolving mass, which soon separates, a thin coating of sugar adhering to each pill.

"In putting the lozenges and pills up in vials and bottles, a careful record is kept and each bottle is numbered."

In 1893, when endocrine glands were beginning to assume an im-

portant role in medicine, "desiccated thyroid substance" was introduced. In 1894 Davis became keenly interested in the announcement from Europe that a serum treatment for diphtheria had been discovered.

At his insistence, the company set up facilities to produce a diphtheria serum of their own and obtained biological license No. 1 from the U.S. government. On March 18, 1895, a Detroit physician administered a shot of Parke-Davis diphtheria antitoxin to an ailing company employee. It was the first commercially-produced serum administered to anyone in the United States. Ironically, laboratory tests later showed the patient had a strep throat rather than diphtheria.

Another important discovery came in 1895 when the Japanese scientist, Jokichi Takamine, developed Taka-Diastase, a starch-liquefying enzyme that's still used in a number of Parke-Davis products. Then in 1897 the company announced it had succeeded in standardizing a group of products by physiological assay. This process was immediately applied to those drugs which would not lend themselves to standardization by chemical assay.

End of era

Now the East began to deal with the Detroit company. Hervey C. Parke and George S. Davis finally had succeeded in establishing their company as a leader in the pharmaceutical industry. This success, however, came at the close of their careers with the firm they had struggled to establish for more than 30 years.

Davis wasn't content with the returns on his Parke-Davis investments. While Parke lived a conservative life, Davis was inclined to be on the extravagant side. He owned a huge mansion, a 500-acre dairy and stock farm, a yacht on Lake St. Clair, and a $35,000 show horse.

The aggressive little salesman had invested most of his resources in California real estate and was nearly wiped out in the Panic of 1893. Other poor investments took big bites out of his personal fortune. He desperately needed more capital and in 1896 sold his Parke-Davis holdings and left the company. Seven years later, Davis filed a petition of bankruptcy. Then the company he had helped organize awarded him a pension which continued until his death in 1930.

Hervey Parke continued as president for three years after Davis' retirement. Then, in 1899, the surviving founder died while on a business trip in California, and the era of Hervey C. Parke and George S. Davis as active managers of their company came to an end. Fortunately, both had remained active long

enough to see the institution they had guided through shaky financial years on little more than enthusiasm and optimism mature into a world-wide enterprise.

Yet even today, when Parke-Davis has 62 branches throughout the world and a working force of more than 10,000 employes, the story is far from complete. The pharmaceutical industry, almost from its inception, has developed in direct ratio to man's demands for better medical care.

As long as medicine progresses, pharmacy will progress with it. And the Parke-Davis story will have no ending.

"I want a four pound breast of lamb dissected free from underlying pectorial fasciae and with all subcutaneous fat removed."

Medical Ethics and Etiquette

SECTION 3. "A physician should practice a method of healing founded on a scientific basis; he should not voluntarily associate professionally with anyone who violates this principle."*

The meaning and background of this principle should be quite clear. Physicians simply *must not* consort professionally (or for that matter socially) with cultists or quacks, even though the quacks, as some do, hold the degree of Doctor of Medicine. All quacks are not necessarily from cultist backgrounds; some are graduates of reputable, and even famous medical schools. Cultists generally are members of sectarian systems of medicine which are not based on scientific demonstration and experience, but rather on the dogma, tenets, or principles derived from the authority of the promulgator of the particular cult or sect.

However, we must all realize that the so-called "cults" may through the years evolve to a point at which their dogma becomes essentially that of a major portion of the profession, and then they become indistinguishable in their methodology and practice from the rest of the recognized medical profession. This is what has happened over the years to the practice of homeopathy. Even at the turn of the century, the homeopaths were in the outer pale in the minds of the allopaths. Now this split has essentially disappeared.

It may come as a surprise to some readers to know that homeopathy ever existed, and that late in the nineteenth century the status of homeopathic physicians was the cause of a continuous battle between the Medical Society of the State of New York and the American Medical Association. The Medical Society wanted everyone legally entitled to practice in New York State to be considered ethical physicians.

The most recent problem of this type which has occupied the minds of —shall I say "organized medicine"?

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* Principles of Medical Ethics. J.A.M.A. 164:1484 (July 27), 1957.

PREAMBLE

"These principles are intended to aid physicians individually and collectively in maintaining a high level of ethical conduct. They are not laws, but standards by which a physician may determine the propriety of his conduct in his relationship with patients, with colleagues, with members of allied professions, and with the public."

—in this country has been the status of osteopathy, and of the osteopathic physician.

In a number of our states, the osteopathic physician has to qualify for a license to practice by taking the same state board examinations as doctors of medicine. This means that he must have essentially the same background in the basic and clinical sciences as has a graduate of a reputable medical school. Furthermore, laws both statutory and administrative exist, in certain states, which permit osteopathic physicians to enroll in any postgraduate courses given by faculties of state university medical schools. Thus, the medical faculty member may have, due to this circumstance which is beyond his control, osteopathic physicians in his postgraduate courses, and thus will be consorting with them "professionally." I believe this is why the word "voluntarily" has been used in describing the type of association which is forbidden.

Furthermore, it appears from an opinion of the Judicial Council, that a graduate of an osteopathic school who takes and passes the same type of licensing examination that is required in a state for a graduate of a regular school, and who does not practice or claim to practice sectarian medicine, and who conforms to the Principles of Ethics of the American Medical Association, should not be classed as a cultist. However, it must be made clear that all *voluntary* association with professing osteopaths is considered unethical under current Principles of Ethics. The same is true of *voluntary* association with optometrists, but not with chiropodists, as chiropody is not considered a cult practice, but is an auxiliary practice in a limited field in which doctors of medicine are not too interested.

For several years there has been a move under way in the House of Delegates of the American Medical Association to recognize the legal and practical implication of osteopathy in the several states which require osteopaths to pass the regular licensing examinations, and to bring certain groups of osteopathic physicians into non-sectarian standing. To date, these proposals have been defeated. But a few years ago, when the question was before the House of Delegates, a shift of the votes of a relatively small number

of delegates to the other side would have made victory possible for those who favor closer relations in certain areas, with osteopathic physicians. It is your Editor's opinion that within a generation, osteopathic physicians, in a number of areas, will have definite affiliations with, or may even be absorbed into, medical societies. In this respect, one must remember that the House of Delegates is more flexible in its attitude toward various problems which confront it than most people realize. It is considered good, clean fun by many to make the House a "whipping boy" when they are trying to get after what is called "Organized Medicine."

I would like to point out one type of professional relationship with a cultist which is voluntary in nature and permissible under our code of ethics. That is when he or his family are ill and seek your professional care. Fully realizing that one can choose who will be his patients, in general it appears that physicians have made a practice of treating cultists or their families when they request medical care. This relationship would seem to be permissible under Section 1 of our Code of Ethics.

ON PROGNOSIS

Hippocrates believed the patient to be more interested in what was going to happen to him than he was in a diagnosis of his condition. Thus, Hippocrates wrote: "I hold it is an excellent thing to practice forecasting. For if the physician discover and declare, by the side of his patients, the present, past and future, and fill in any gaps in the account given him by the sick, he will be the more believed to understand the cases, so that men will confidently entrust themselves to him for treatment."

Guest Editorial

Cyril S. Arvanitis, M.D.

The Resident and Identity

The resident chooses to spend some years of his life in a program designed to make him a specialist, and during these years he can be likened to a soldier in a squad, or one spear-carrying extra in a cinematic spectacular. While there are opportunities for occasional emergence of identity from group anonymity, for the most part, he is another white-clothed physician doing his job well (or poorly) in the eyes of his administrators. He is a greater or lesser cog in the movement of grander parts in the machinery of medicine.

This moderate obscurity of self is essential to the business of learning, with its need for submersion into the whole group for the humble business of the acquisition of knowledge. This studentship, with its attendant emphasis on group identity, is an important and necessary characteristic of resident training.

To survive, however, emergence must follow submersion, and it is this abrupt yet cautious entrance into the territories of identity which the resident

contemplates increasingly as his training nears its end.

C. S. ARVANITIS, M.D.
Hahnemann Hospital
Senior Surgical Resident
Chief House Resident

Benevolent supervision, bimonthly paydays and rigid duty schedules (not to mention a surfeit of patients) are suddenly left behind with the casting off of whites.

The *We* of departmental decisions and attitudes becomes the unsupported *I;* the fruits, some sweet, some sour, of identity are made apparent.

He, who was once a member of the oldest student body (in terms of the age of its members) in the world, must suddenly utilize the three components which make him the post-postgraduate animal: his training, his talent, and his ego, each to a greater or lesser degree depending on the previous nutrition of each part.

But identity, or at least individuality, will be achieved, with perhaps a transient longing for the less naked authority of his residency. The resident, finally, must decide and act as an end product put to use.

Contemplating admission into the world of private practice entails for most residents a wonderment at the mysterious world of medical economics. Rents, costs, salaries, fees, expenses, create the need for a new learning, less benign than in the absorption of medicine, and, it is hoped, less time consuming. The price for identity must be paid, and frequently in cash.

Moving from the top of the resident heap to the bottom of the practitioner pile recreates the condition which prevailed in the migrations from high school

to college, to medical school, to internship, to residency. However, the clear-cut, yearly gradations no longer exist. Now the entire man, from brain to shoeshine, competes, with neither limitation nor guarantee of promotion. Rewards in practice which substitute for the graded advancements of training days are less well defined, but no less satisfying.

For all the enthusiasm to finish training and step out into private practice, like the new soloist freshly sprung from the protective mass of the chorus, the resident begins to look back wistfully in appreciation of the group as he functions on a less crowded stage. After one of the longest periods of education necessary for the completion of the professional man, the ex-resident will content himself with this occasional backward glance as he moves forward toward complete identification.

SOIL AND TISSUE

A farmer may be adept with his plough, a surgeon with his scalpel; yet neither can accomplish much without deep insight into the processes of growth. The farmer must know his soil, the surgeon the tissue with which he deals. Only in this manner is the surgeon able to recreate the optimum conditions under which tissue regeneration takes place and progressive repair with ultimate healing ensues.

—From *Surgical Technigrams* by F. M. Al Akl, M.D.

Clinico-Pathological Conference

Hahnemann Hospital

Conference Participants

Dr. Paul J. Grotzinger, Associate Professor of Surgery

Dr. E. Karl Koiwai, Associate Professor of Pathology

Dr. Millard N. Croll, Instructor in Radiology

CLINICAL HISTORY. A 62-year-old, white male was admitted to Hahnemann Hospital with a chief complaint of abdominal pain of 24 hours duration.

He was in his usual good health until the evening before admission, when, after heavy ethylation, he had severe, sharp, epigastric pain with abdominal rigidity. He had not been eating, but had been drinking alcohol heavily all week.

At the onset of pain, he took "nerve pills" which he could not keep down; he vomited 7 or 8 times. The vomitus contained no blood.

After a sleepless night, he became dizzy on the street and a friend brought him into the Accident Ward. His last bowel movement was four days before admission, but he had passed flatus. There was no dysphagia, jaundice, hematemesis or melena. He had no previous abdominal surgery. He had vague gastric upsets for many years, but never associated with pain of this severity. There was no radiation of his abdominal pain.

PAST MEDICAL HISTORY. He had mumps, measles, diphtheria and influenza. He was a known hypertensive for the last two years. He had

no operations or other hospital admissions.

SOCIAL HISTORY. He was married and divorced. He worked as a laborer in a steel plant until he was fired ten months previously for frequent absence.

FAMILY HISTORY. Not remarkable. His eating habits were poor and he drank heavily.

Review and examination

SYSTEMIC REVIEW. *Head.* His constant headaches he attributed to hypertension. His vision was poor, he wore glasses; his hearing was poor. *Mouth and Neck.* Essentially negative. *C.R.* No cough, no chest pain; no hemoptysis, although two years ago he had history of exertional dyspnea and hypertension. *G.U.* Negative. *Skin.* Negative. *Extremities.* Negative. *Neuromuscular.* Negative.

PHYSICAL EXAMINATION. TPR—97, Pulse 100, Respiration 12. B.P. 80/60.

Examination revealed a 62-year-old, white male lying in bed appearing acutely ill. The foot of his bed was elevated on shock blocks. There was a venous cutdown in the right leg and an IV in the right arm. Respirations were shallow. There was bilateral splinting on deep inspiration. Lungs: Possible hyperresonance, right anterior chest, was noted. Breath sounds were diminished at the right base anteriorly. Heart: the P.M.I. was not felt. The rhythm was abnormal, but the type undetermined due to rapid rate. The sounds were distant; the A_2 tympanic. No murmurs were heard. Peripheral pulses were weak.

Abdomen: Slight epigastric distention was noted. Rigidity and tenderness to palpation was present in all quadrants. There was no rebound tenderness. No organs or masses were palpable. There was peristalsis with 1+ tinkling heard at height of pain. There was no costovertebral angle tenderness. Examination of genitalia and rectum was negative. The skin was dry, but not jaundiced. The neurological examination was negative.

Laboratory findings

Hemoglobin 17.4 grams, hematocrit 55%, WBC 23,500 with a shift to the left; Urine: specific gravity 1.025; color, cloudy amber; pH acid; protein 2+; sugar 3+; acetone trace.

Microscopic: RBC/HBF too numerous to count; 3-10 WBC/HBF; 0-3 casts/LPF; 0-2 epithelial cells and much amorphous material.

Blood Chemistry: BUN 19 Mg%; fasting blood sugar 92 mg%; CO_2 54.1 vol%, 24.1 mEq; chlorides 486 mg%, 82.4 mEq. Blood amylase 200 mg%. Blood type 0-Rh positive.

The following day, repeat urinalysis showed a specific gravity 1.030; color yellow; reaction acid; protein 2; sugar over 2%, acetone negative.

Microscopic: RBC/HPF 12-14; WBC/HPF 1-2; casts/LPF 2-4

coarsely granular; 1 epithelial cells.

Blood chemistry: CO_2/63.7 vol%; chlorides 468 mgm%, 80.4 mEq; amylase 108 mg%.

Clinical course

On admission, the patient's abdomen was distended and tender; later, no peristalsis was present. Levophed was needed to maintain his blood pressure. He was given whole blood and 500 cc. of fluid. X-rays were taken of the abdomen which were essentially negative and there was no evidence except of mechanical obstruction. X-rays of the chest were negative except for increased density in the sub-apex of the right lung. The patient was continued on conservative management.

On the following day, his temperature rose to 103°, his abdomen became soft and distended. He became disoriented, moribund but continued to put out some urine. He continued to require Levophed. Abdominal paracentesis produced 20 c.c. of cloudy yellow fluid. The EKG showed a wandering pacemaker with no acute progress. In spite of therapy, the patient expired on the second day after admission.

Discussion

This patient presents a problem in the differential diagnosis of diffuse peritonitis accompanied by peripheral vascular collapse. The onset and character of the recent illness are unfortunately confused by the patient's last bout of alcoholism. This lack of definition makes the distinction difficult between states which produce intro-abdominal catastrophe leading to peritonitis and collapse immediately, and other states which eventually produce the same end result.

In favor of recent acute catastrophic illness is the fact that the patient experienced epigastric pain 24 hours before admission with no symptoms that he could remember preceding that time. However, since he was capable of walking about for a day following the onset of the pain, it may well have been true that these pains were the first symptoms noted by him in the course of an illness which had a more insidious onset and whose beginnings were obscured by his alcoholic narcosis.

His past history contributes the fact that he was a known hypertensive and the laboratory data suggests that this was accompanied by some renal damage. Consideration of the remaining laboratory data shows that he was in a state of hemoconcentration, probably the result of both dehydration and shock. Serum amylase was at the upper limits of normal on the day of admission. However, because of the delay in admission, its significance is very limited. X-ray studies of the abdomen and chest were done.

Dr. Croll: A scout film of the abdomen showed some gas in the intestine, but this is more suggestive of an ileus rather than mechanical

obstruction. We see no evidence of enlarged viscera, abdominal masses or opaque biliary or renal calculi. Both diaphragms are at about the same level. There is no evidence of free air, but these films were taken in the recumbent position and no films were made in the erect position because of the patient's state of collapse.

Dr. Grotzinger: When patients are in shock, they can be more safely turned on their side than put in erect position. Cannot films made in this fashion demonstrate free air?

Dr. Croll: Yes, and such decubitus films often demonstrate air that cannot get into the space between the liver and the diaphragm.

Dr. Grotzinger: Both psoas shadows are clearly seen. This finding would exclude a severe retroperitoneal process such as acute pancreatitis.

During his period of observation before demise, the patient stayed in shock despite the use of transfusions, intravenous fluids and norepinephrine. After his distention became more obvious, an abdominal tap was done. This procedure helps considerably in narrowing the diagnostic possibilities. The material obtained, as reported, was a cloudy, yellow fluid. Unfortunately, no reference was made to its odor, or to whether or not it was cultured.

If this patient had been suffering from an intra-abdominal vascular accident, such as a leaking aortic aneurysm or mesenteric thrombosis, the fluid would have been grossly bloody. If acute hemorrhagic pancreatitis were present, the fluid would be blood tinged. Perforation of an acute gallbladder results in bile staining of the peritoneal fluid.

Paracentesis

An observation concerning its odor could have orientated the cause to the colon and made more probable the diagnosis of appendicitis, diverticulitis or perforated malignancy as a cause of the peritonitis.

The procedure of abdominal paracentesis in the face of distention is associated with some small risk. In critical and obscure states such as this patient presented, the risk is certainly justified, since, as is demonstrated in this instance, a more accurate definition of the intraperitoneal pathology is made possible.

The final diagnosis must be limited to peritonitis with peripheral vascular collapse. If the recent history dates back no further than 24 hours, the most probably diagnosis would be a perforated duodenal ulcer. If, on the other hand, the history in reality antedates this period, acute appendicitis, diverticulitis, or a perforated malignancy are the most probable causes.

Autopsy findings

On opening the abdominal cavity, the peritoneum was congested, showing areas of hemorrhage and necrosis. Within the peritoneal cav-

ity, there was 600 cc. of rather thick, yellowish cream exudate. The loops of intestine were covered also by the same type of thick exudate. On opening the stomach and duodenum, the stomach mucosa was congested but showed no specific changes.

The pyloric ring was not remarkable. However, on opening the duodenum, there was a perforation localized in the first portion of the duodenum in the superior and posterior wall, near the pyloric ring. This perforation measured 1.5 cm. in greatest diameter. The edges of the ulcer were slightly ragged and edematous and were covered with yellowish exudate. This perforation went through the entire duodenal wall and opened free into the abdominal cavity.

Examination of the gallbladder and its bile ducts were not remarkable. The appendix was present and was not remarkable.

FINAL DIAGNOSIS: Generalized acute peritonitis due to perforated duodenal ulcer.

Next Month

See our special feature on the National Institutes of Health and Clinical Center

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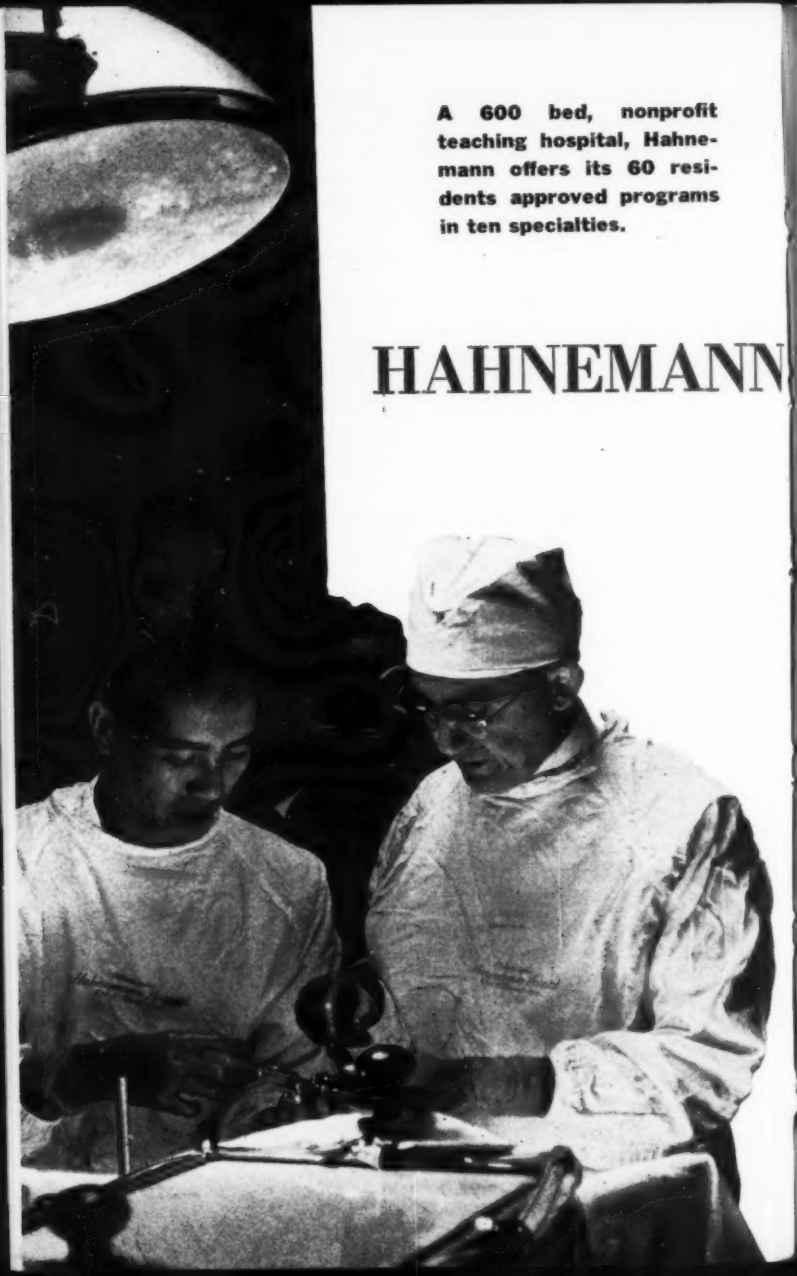
A 600 bed, nonprofit teaching hospital, Hahnemann offers its 60 residents approved programs in ten specialties.

HAHNEMANN



One of a series from leading resident-intern centers

NN HOSPITAL

A $25-a-month warehouse and 9 professors greeted the first 15 medical students to enter Hahnemann Medical College in 1848. The College, established in part through the efforts of Drs. Jacob Jeannes, Constantine Hering and Walter Williamson, became the third medical college in Philadelphia. Through successive unions with other schools, Hahnemann's growth was steady in the years that followed.

In 1854, there were 21 courses in the curriculum. By 1869, the College had a three year, graded course of medical study. (Four years before, women were admitted to medical lectures for the first time in the anterooms of Hahnemann's lecture halls.)

A teaching hospital was opened shortly before the Civil War and many soldiers, considered "uncurables," came for treatment after their discharge from Army hospitals. In 1869, the Hospital was enlarged to 40 beds and by 1890 it had grown to number 150 beds.

Today, Hahnemann Medical College is a complex medical center. The College, with 397 students, has more than 3,600 living graduates.

Emergency care

In proportion, the Hospital has grown into a 19-story, 600 bed institution serving the school and the city of Philadelphia in the great tradition of our nation's city hospitals.

Here among the hundreds of thousands of Philadelphians living

Thoracic resident (left) assists Dr. Harry Goldberg, assistant professor of medicine, during cardiac catheterization.

in close proximity, Hahnemann Hospital provides quick access to emergency service. Despite the more than 70 public and private hospitals in the greater Philadelphia area, Hahnemann is called upon for more than 14% of the total police emergency work.

To Hahnemann come the sick, the impoverished, the handicapped, in such volume and variety that the Hahnemann resident is privileged to absorb an extremely wide medical experience.

Vital institution

Dr. Charles S. Cameron, Dean of Hahnemann Medical College and Hospital, has made clear the three phases which combine to make Hahnemann a vital institution:

"Hahnemann has a three-fold purpose: medical education, research, and hospital services."

A nonprofit institution, non-denominational Hahnemann is directed by a board of trustees, civic-minded men and women of the Philadelphia area who serve without pay. Mr. Charles Paxson is administrator of the Hospital.

Staff

House staff activities are under the direction of Dr. Harold A. Taggart, Associate Dean and Acting Medical Director, in cooperation with the ten department chiefs. The medical staff includes 262 doctors on the attending staff and 64 on the courtesy staff. The Nursing staff numbers 165.

Hahnemann Hospital is approved for residency training in ten specialties: anesthesiology, medicine, obstetrics and gynecology, orthopedics, pathology, pediatrics, radiology, surgery, thoracic surgery, and urology.

Residents are selected on the basis of qualifications which include proof of graduation from an ap-

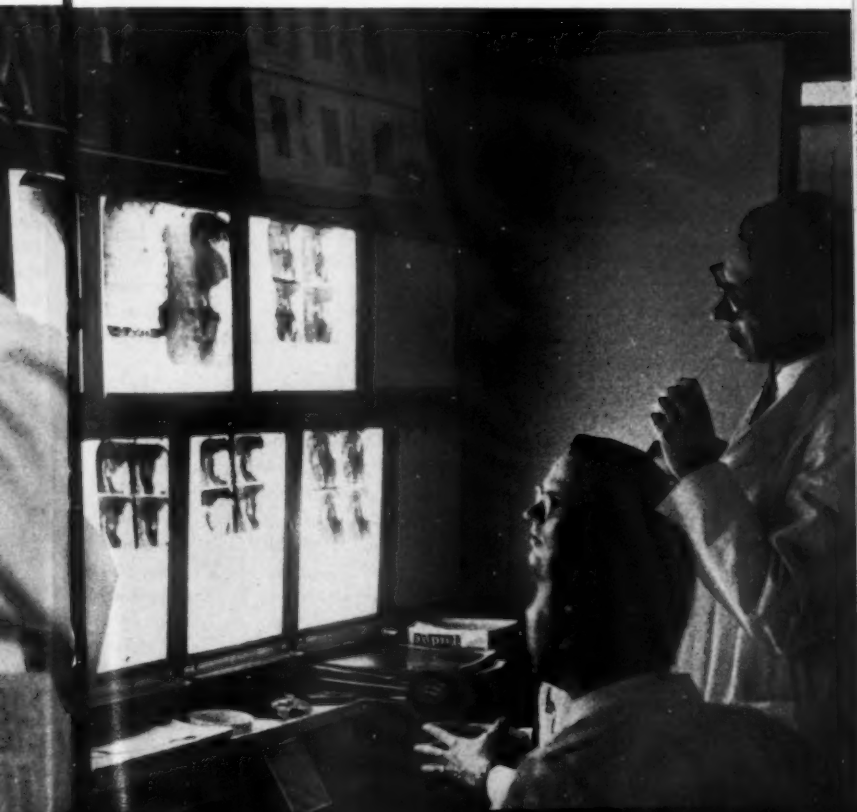
Radiology residents and attending sta[illegible]ysicia

proved medical school and a one-year internship in an acceptable hospital. Applications for residency are made to the Resident Committee of Hahnemann Hospital (Dr. Domenic J. Pontarelli, Chairman) and are acted upon by the Committee whose membership includes the representatives of the departments concerned.

As a teaching hospital, all ward patients and most of the semi-private and private patients (at the discretion of the attending physician) are available for teaching instruction.

Since Hahnemann cares for a number of free and part-pay patients (27,291 approved free patient days in 1957 alone), the

ysicians review x-ray films during a daily conference.



clinical case volume is large. In the past year, the Hospital admitted 14,106 inpatients. Its outpatient volume has grown to 94,550 visits yearly.

The cost to the Hospital for emergency, outpatient and free or part-pay work is well over $800,000 yearly, a sum only partially restored by state and city agencies.

Thus, with more than 8,100 operations performed annually, with 4,213 ward patients admitted over a twelve month period and with a total inpatient load averaging 153,495 days yearly, Hahnemann is able to provide a wide variety of clinical experience for the resident.

Residents

Dr. Cyril S. Arvanitis, senior surgical resident and chief house resident, tells the Hahnemann residents' story:

"Each year, 50 to 60 physicians-in-training fill the residencies available at Hahnemann Medical College and Hospital. Some are taken from the intern group and others from a great variety of schools and internships.

"Residents are accepted on a columnar basis. The resident who responds with interest and ability to his professional environment keeps his appointment until the termination of his program. Each residency available at Hahnemann Hospital (see chart) fulfills the criteria as established by the board of that specialty."

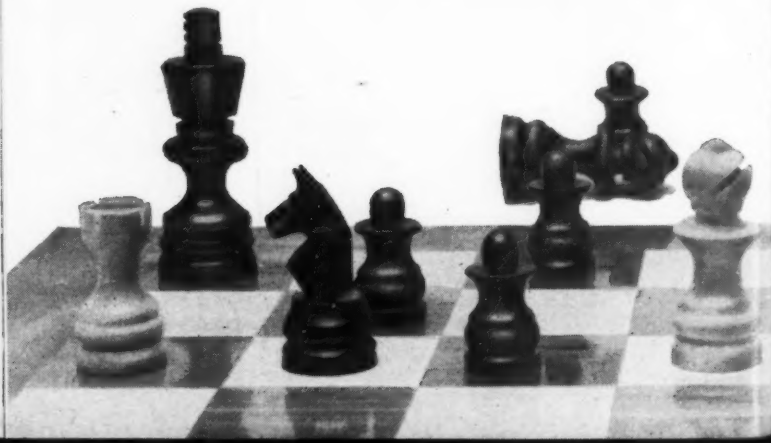
While in each Department there is the requirement and need for the resident to assist in the management

Surgical residents and junior medical students inspect a pedical graft.

Hahnemann surgeons average nearly 25 surgical procedures daily.

decisive action in stress

SPARINE is recommended for use in that portion of the Stress Spectrum requiring the action of a potent, relatively nontoxic drug to return the patient toward normal. SPARINE has caused no liver damage, no parkinsonian-like syndrome, and but rare instances of blood dyscrasia.



STRESS SPECTRUM: EPS demonstrates that there is a Wyeth normotropic drug for each of the three great segments of this spectrum. Thus, the physician now has a specific drug for nearly every patient undergoing mental or physical stress.

EQUANIL in the Stress Spectrum: EQUANIL, anti-anxiety factor with pronounced muscle relaxing properties, for simple anxiety, tension, skeletal muscle spasm, muscular tension.

PHENERGAN in the Stress Spectrum: PHENERGAN, for obstetrical and pre- and postoperative use. Psychic sedative with anti-emetic and antihistaminic properties; produces quiescence and potentiates CNS depressants, thus reducing dosage requirements for narcotics, analgesics, and sedatives.

SPARINE in the Stress Spectrum for:

apprehension and pain in medical emergencies
hiccups
acute and chronic psychoses
senile agitation
alcoholism
hallucinations
delirium tremens
withdrawal from alcohol, narcotics, and other addicting drugs

Supplied: Injection—50 mg. per cc., vials of 2 and 10 cc. For intramuscular or intravenous use. Tablets—10 mg. (green), bottles of 50; 25 mg. (yellow), 50 mg. (orange), 100 mg. (pink), and 200 mg. (red), bottles of 50 and 500. Syrup—10 mg. per 5 cc., bottles of 4 fl. oz.

Comprehensive literature available on request

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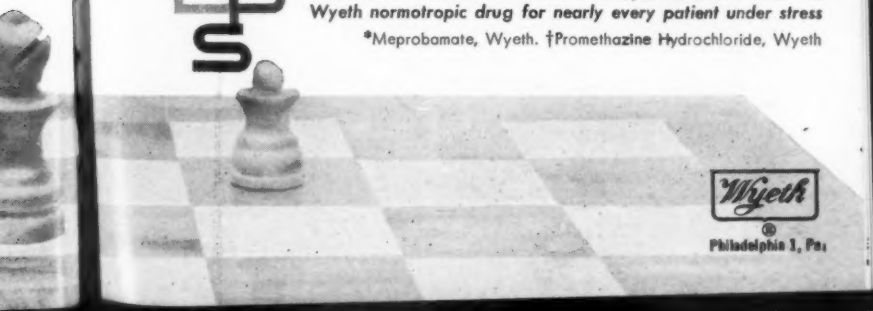
HYDROCHLORIDE

Promazine Hydrochloride, Wyeth

EPS

EQUANIL®* PHENERGAN® HCl†, SPARINE® HCl—A
Wyeth normotropic drug for nearly every patient under stress

*Meprobamate, Wyeth. †Promethazine Hydrochloride, Wyeth



Wyeth®
Philadelphia 1, Pa.

Hahnemann Medical Center. Hospital is in background with school buildings in the foreground. The HMC clinic building can be seen at right in the photograph.

of private patients, particularly in the early portion of his training, it is during his tenure in (and control of) the ward service that the Hahnemann resident acquires the greatest portion of his knowledge. The ward services comprise 30% of the total patient load at Hahnemann Hospital; these wards are completely managed by the residents in the corresponding departments under the supervision of attending physicians on service.

Learn by doing

"At Hahnemann," Dr. Arvanitis points out, "the ultimate responsibilities and pleasures of ward management rest with the senior resident of each service; he is aided by junior men. The philosophy of learning by doing is manifest throughout the entire residency program, in gradations commensurate with experience and seniority. In the surgical specialties, the senior residents perform the major portion of the operations with some surgery being performed by residents at all levels in the program."

Teaching

Dr. Arvanitis emphasizes the teaching aspects of a resident's duties.

"Senior residents at Hahnemann Hospital have an obligation to teach; first, the medical students who provide an unceasing stimulus to one's desire and need to learn it

Nine residents utilize micro-slide projector which enables all to see micro-slide during pathology conference. Below, senior resident discusses new case with pathology group.

HAHNEMANN HOSPITAL—RESIDENCY INFORMATION

SERVICE	CHIEF	1ST YEAR RESIDENCIES	TOTAL RESIDENCIES	YEARS OF PROGRAM (APPROX.)	BEGINNING STIPEND (MONTHLY)
Anesthesiology	A. J. Catenacci	7	7	2	$115
Medicine	J. Moyer	1	4	3	115
Obs. & Gyn.	N. F. Paxson B. MacFadyen	3	7	3	115
Orthopedics	E. O. Geckeler	3	5	1	115
Pathology	J. Imbriglia	2	5	4	115
Pediatrics	C. C. Fischer	3	7	2	115
Radiology	J. S. Lehman	0	5	3	115
Surgery	W. L. Martin	6	10	4	150*
Thoracic Surgery	C. P. Bailey	2	5	2	115
Urology	E. W. Campbell	1	3	3	115

* Yearly increase of $25, with senior resident receiving $225 monthly.

order to teach, and second, the interns. Teaching of interns, as everywhere, is an important and stimulating function of residents at all levels; alert, talented interns are given responsibilities and procedures to perform of increasing complexity as their skill becomes evident."

The senior residents also conduct formal conferences and discussion groups for junior members of the department, supplementary to bedside and operating room guidance. Each department conducts teaching programs of a nature dictated by the specialty, including C.P.C.'s, grand rounds, morbidity and mortality conferences, radiology conferences, and similar indicated meetings for attending and house staffs.

"Each residency is a busy one," says the chief resident. As a resident advances through the steps of his program he is sufficiently occupied to become "absorbed by his work and to relish his time off."

From the senior residents are chosen three house officers, one chief resident and two junior chiefs, who act as liaison between administration and the house staff.

"An excellent camaraderie exists, supported in part by the predominately young attending staff and maintained by the frequent formal and informal social gatherings during the hospital year."

The attending staff is available for instruction at Hahnemann Hospital. Many on the staff are also members of the faculty of Hahnemann Medical College, certified in their specialty and helpful to residents of their departments.

More than 94,000 outpatient clinic visits are made at Hahnemann each year and a large percentage of all police emergency cases in the City come to the Hospital's accident ward.

Research and library

Of value to the resident's training is the research program at Hahnemann which embraces 133 research projects supported by grants of more than $800,000 yearly for research activities.

Major emphasis is on the cardiovascular diseases, cancer biochemistry and a study of urban life and its medical applications.

The basic science laboratories are available to residents and most of the basic science work required by the various specialty boards is done in the College Science Building.

Hahnemann's medical library currently has 25,000 medical volumes and subscribes to 450 medical journals. In addition, the medical libraries of other Philadelphia medical schools and the library of the Philadelphia College of Surgeons are available to house staffers.

Stipend and perquisites

The basic monthly stipend for residents has been set at $115. In addition, a monthly allowance of $40 is provided for housing in lieu of hospital quarters. Housing is available adjacent to the Hospital and assistance in obtaining rooms or apartments is given.

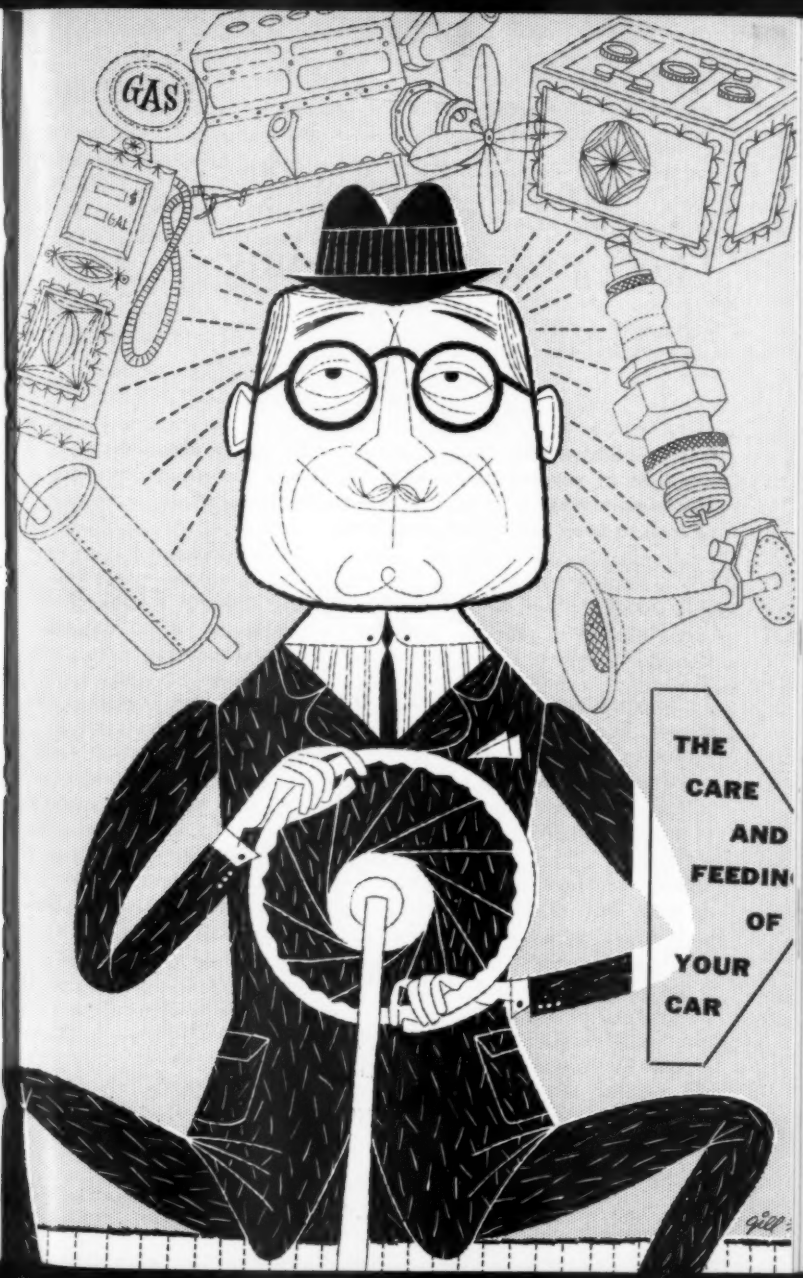
Board and laundry are also provided. The resident staff dining room is maintained separately from other staff dining areas. Trousers, jackets or coats are furnished. All residents are given paid vacations annually, at the discretion of their department chiefs. Medical care for residents is provided by the Hospital.

Social programs within the institution itself make off-duty hours for residents more interesting and through Philadelphia's fine theaters, symphony orchestra, athletic teams and other facilities and functions, house staff physicians can enjoy excellent recreational opportunities.

THOSE WHO HAVE EYES . . .

In 1816, Laennec invented the stethoscope. His friend, Lejumeau de Kergardec, tells of Laennec's account of the discovery:

"The author told me himself, the great discovery which has immortalized his name was due to chance. . . . One day walking in the court of the Louvre, he saw some children who, with their ears glued to the two ends of some long pieces of wood which transmitted the sound of the little blows of the pins, struck at the opposite end. . . . He conceived instantly the thought of applying this to the study of diseases of the heart. On the morrow, at his clinic at the Necker Hospital, he took a sheet of paper, rolled it up, tied it with a string, making a central canal which he then placed on a diseased heart. This was the first stethoscope."


GAS
THE CARE AND FEEDIN OF YOUR CAR

The Care and Feeding of Your Car

With a night-school course in car maintenance plus the help of several top auto mechanics, the author has compiled some expert advice for house staffers on how to keep the old heap running.

Sidney Fink, M.D.

In a recent survey of house staff officers conducted by RESIDENT PHYSICIAN, it was shown that 88% of all residents and 67% of interns polled owned cars. Nine out of ten of these autos were more than three years old.

More important, the percentage of house staff income spent in support of these thirsty, demanding, depreciating "dependents" ranged from a low of 12% to a high of 65%. Median? Just over 30% of the monthly stipend!

Some of this money comes under the heading of "fixed expenses." Such things as insurance, licensing fees and to some extent depreciation are areas in which little economizing can be effected.

But you can, with a little understanding of the anatomy and physiology of your bus, make considerable savings in other departments such as repairs, gas, oil, tires, brakes —savings, incidentally, which the great army of car owners knows little or nothing about.

First, you must discard the philosophy expressed in the "tin rule of car ownership" which states: "Do unto your car only when it refuses to do for you."

On the surface, this t'hell-with-it attitude is appealing because it would appear to be inexpensive.

it's not. Postponing or ignoring a minor squeal will turn it into your own shriek of anguish when you see the bill for a major overhaul.

There are many analogies to be drawn from medicine where a minor complaint, too long ignored, can become a major tragedy.

Suggestions

As a house staffer, car owner and poor man (the three seem to go together), I was faced with the constant drain of income due to car care costs. My car is much more than three years old; venerability, in fact, is its strong point. I decided to take a night-school course in auto maintenance during off-duty hours.

Using the tips picked up from my instructors, over the past three years I have managed to pare down my car expenses by more than $30 a month! Figuring conservatively, the suggestions I received will save me perhaps $10,000 over the next twenty years. I have tried to include most of these pearls in this article in the hope they'll be of value to other young MDs.

Basic anatomy

Have you ever looked under the hood of your car? (I don't mean checking to see if the car had an engine at the time you were buying.) I mean really *looked* at what's under the hood.

(If you know what's there, you can skip this section and get right to the dollar-saving items further on in the article.)

The time to take your motor anatomy lesson is now, while your car appears to be running smoothly. Now is the time to spot early indications of major degenerative changes.

With the ignition off, raise the hood. Check to see if the hood will stay up by itself. This may seem ridiculous, but I remember watching a near tragic accident on the New York State Thruway last year—or I should say, just off the Thruway. I was waiting for gasoline when, at the next pump, I noticed a man lift his own hood, unscrew the radiator cap and bend forward to peer in at the water level in the radiator.

Suddenly, the hood came crashing

About The Author

Dr. Fink graduated from the College of Physicians and Surgeons in 1952. He then spent several years in medical residency, and as a Fellow in gastrointestinal research at Montefiore Hospital (NYC) and at the Hospital of the University of Pennsylvania. At present Dr. Fink is associated with the medical service at the Veterans Administration Hospital, Bronx, N. Y.

down, catching him on the back of the head and forcing his nose down and into the opening of the radiator. Before I could move, a woman waiting at another gasoline pump screamed. An attendant ran over just as the injured man raised the hood with one hand while covering the lower part of his face with the other. There was considerable bleeding, although as it turned out, it was a mild epistaxis and was controlled by a hastily devised pack.

Had his head been a few inches further under the hood, the injury could have been extremely serious. The attendant told me later: "Happens all the time . . . every day."

So again, silly as it sounds, check the suspension on your hood to see that it is firm. If you have any doubts, block it up with a broom handle or other sturdy brace.

Clean block

As you know, the large metal mass which occupies most of the space under the hood is the engine —it consists of the *head*, the top section, and the *block*, the bottom section. The most superficial inspection of these two items will show you that your car, like most others, has collected a considerable amount of grease and dirt on the block.

Is this necessarily a bad thing? Well, rarely does it cause trouble; but when it does, it's difficult to trace the cause to this accumulated grime. Frequently, grease and dirt conduct the electric spark (which is supposed to go through the spark-plug and into the cylinder to fire the gasoline) away from the plugs. In other words, the spark is "grounded" or short circuited into the block.

This robs your engine of power, wastes a considerable amount of gasoline and can, in extreme cases, cause obvious "missing" (an engine which is firing less than its designed number of cylinders). This puts undue strain on the remaining cyl-

ANTI-FREEZE

Whether you use alcohol (cheaper) or one of the so-called "permanent" anti-freeze compounds (higher boiling point) in your car, don't leave it in your radiator after the cold weather season. No matter what you may hear to the contrary, exhaust gases do escape into the cooling system, form acids which combine with alkaline inhibitors in the anti-freeze to form salts. These salts are corrosive and eat away at the head gasket (the sealer between the engine block and head). A small leak in the gasket will usually go unnoticed for some time and coolant may escape into the oil system. If that happens, you're in real trouble. So, when winter ends, drain and flush out your cooling system and refill with water plus a can of rust inhibitor. (Don't save your contaminated anti-freeze for use the following year.)

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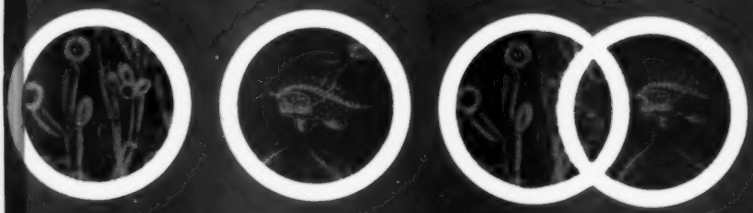

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BATTERY

Check to see that terminals are clean and tight. Coat with light covering of petroleum. Never add water to battery just prior to putting the car up for a long rest. Do add water, if needed, just before a trip or while car is in regular use.

inders and connecting rods (the shafts which convert the vertical motion of the moving pistons into a rotary motion of the drive shaft). Also, such a short circuit in grease is a definite fire hazard. In addition, the engine with a blanket of filth frequently runs at too high a temperature. The block should be wiped clean with a dry cloth.

Electrical

There are six or eight wires (depending upon the number of cylinders in your engine) leading to the spark plugs set into the head of your engine. These rubberized wires sprout from a circular bakelite hood called the distributor cap. Each wire has a rubber sleeve at the distributor end, and may or may not be covered by a similar sleeve where it fits on the top of the spark plug. If your spark plug wires do not have rubber caps it would be wise to get a set (the cost is around $2) since they help prevent water or dirt from fouling the connection between the wire and the spark plug.

From the center of the distributor cap a single rubberized wire runs to the ignition coil and from the coil a thinner wire leads to the starter motor. Completing the electrical circuit, a cable is attached between the starter motor and your battery and another from the battery to the engine block or chassis as a "ground."

The battery is an important item and deserves the best care you can give it. By removing the caps on the battery's superior aspect, you will be able to see the fluid level in the battery cells (the fluid is a dilute acid. But more about this under "Battery Care."

In the electrical system one other set of wires is important, those leading to the horn. Ask your mechanic which wire to pull off if the horn ever gets stuck. The embarrassment you save may be your own, especially if the horn sticking occurs in the hospital parking lot.

Fuel supply

Two other elements are involved in the explosions required in your cylinders to provide power: fuel and air. Taking the fuel system first, the heart of your car is the carburetor. It is easily located since it wears a tremendous hat—a large, circular air filter fits over its head.

If you are an explorer by nature, you can of course remove the air filter. Caution: most filters contain oil which traps dust particles before the air is pulled into the carburetor

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air intake. Therefore, if you do lift off the air filter, keep it absolutely level. Now you have exposed the open carburetor and you can see the "choke" or butterfly disc valve. It operates by blocking the air intake so that the engine gets less air and a greater proportion of gas, providing the "richer" mixture necessary for cold weather starting.

In most cars except the very old, the choke works on an automatic thermo-control principle and depends on the engine block temperature. When the engine temperature declines, the choke will move automatically to close the air intake.

Attached to the side or bottom of the carburetor, you will note a thin tubing of brass or copper. This is the fuel line through which comes gasoline from the fuel pump; the pump (which may have a glass sediment bowl attached) pumps gas from the gas tank located at the rear of the car.

The air and gasoline mixed in the carburetor go into the engine cylinders where, through compression and combustion, they are converted into power, heat and exhaust gases. The latter leave by a large iron collecting pipe system on one or both sides of the block, enter the muffler (under the car), and then exit via the tail pipe.

Muffler

The next time your car is on a lift for lubrication, walk under the car and look at the muffler and tail pipe. If these have holes in them, they are inefficient and a source of danger to you. The carbon monoxide can leak through the floor of your car, to the interior. In inclement weather, during long drives with the windows closed, this could easily lead to tragedy.

SPARK PLUGS

Have the gap between plug electrodes checked and properly set to improve gasoline economy. Worn plugs waste gas and should be replaced. Wipe the porcelain on your spark plugs with a clean dry cloth every chance you get. Also check the lead-in wires to make sure of a tight connection between wire and plug.

Radiator

The radiator consists of a steel frame, and grid-like "core" which is the cooling surface. Short rubber hoses connect the base of the radiator to the bottom of the engine block and the top of the radiator to the head and water pump mounted on the top or side of the engine.

Other hoses connect the engine water system to the heater.

Examine these hoses, and look for signs of cracking, fraying, or leaking. The radiator coolant level should be up to within a few inches of the top of the tank. When checking this level, always open the ra-

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Shook[1] states: "The results of this study indicate that withdrawal bleeding and inhibition of normal involution of the uterus constitute a serious objection to the use of stilbestrol and that stilbestrol treated patients usually have secondary lactation and breast engorgement; that testosterone is ineffective in suppressing lactation initially . . . and that Vallestril does prevent breast symptoms and lactation initially, is not followed by secondary lactation and breast engorgement, does not result in withdrawal bleeding and does not inhibit normal involution of the uterus."

Schneeberg[2] and his associates gave Vallestril to 198 patients with postpartum breast engorgement, pain and lactation. They reported: "The patients . . . achieved over-all results . . . somewhat better than those in patients receiving 3 mg. of diethylstilbestrol. . . . Untoward effects, even when large doses were used, were rare."

Only two 20-mg. tablets taken daily for five days suppress lactation and relieve engorgement and pain. Dosage for indications other than the suppression of lactation is described in Reference Manual No. 7. G. D. Searle & Co., Research in the Service of Medicine.

1. Shook, D. M.: Am. Pract. & Digest Treat. 7:917 (June) 1956.
2. Schneeberg, N. G.; Perczek, L.; Nodine, J. H., and Perloff, W. H.: J.A.M.A. 161:1062 (July 14) 1956.

SEARLE

diator cap with care, and never do so while leaning over the top of the radiator.

Behind the radiator you will note the fan; it is connected by a taut belt to a metal cylinder about the size of a shoe box—the generator. When the engine is operating, a fraction of the power produced is transformed, via the fan belt and generator system, into electricity, which in turn keeps the car running and the battery charged.

Unless your car's hood release is inside the car, before closing the hood look for a convenient place to hide a spare key. Auto supply stores sell magnetic "hide-a-key" boxes. These are easily hidden under the hood or out of sight on the frame and may save you the trouble of breaking into your own car some day!

The appearance of your car is an important factor in the assay of its trade-in value, and may decide the number of years that you can keep the car without loss of prestige in the community. If either of these considerations is of importance to you, inspect your car carefully.

Locate rusted and pitted areas that are marring your car's finish and chrome, and with an inexpensive touch-up kit of matching paint, you can keep your car in good appearance with remarkably little effort.

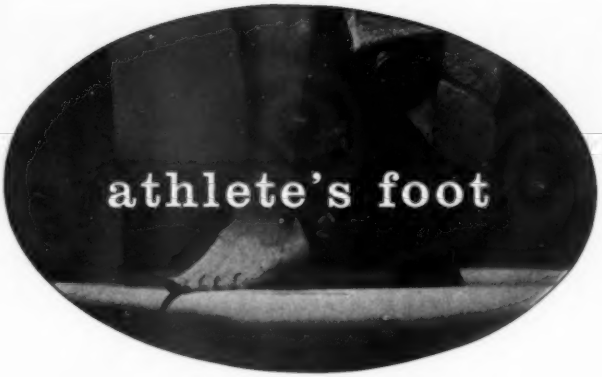
ADDITIVES

In general, avoid the use of oil additives. Instead, use a premium high detergent oil to avoid trouble before it starts. Additives will often free sludge from the oil pan and allow it to be circulated through the oil system where it may clot, blocking lubrication and ruining engine parts such as valves and rod bearings. However, if your carburetor is gummy or your hydraulic valve lifters are making trouble, medication is often preferable to surgery; additives may help in such emergency situations and can save extensive motor overhaul. Caution: First remove oil pan and clean out all accumulated sludge before introducing additives.

Brakes

"I don't care if it won't run—but if it won't stop, I'm in real trouble."

This comment from a brake-conscious veteran of the trunk to radiator parkway jam sessions so common on today's highways, is an interesting philosophy concerning brake maintenance. But more important to any auto owner, it is one of the most valid statements that can be made about car ownership. Brakes in perfect working order should be your number one consideration in the care of your car. I will be the first to admit that I have never seen a full brake, panic stop that didn't come too late to avoid an accident. But, perfect brakes can bring you out with minor



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THERMOSTAT

Remove and check thermostat with a thermometer and pail of hot water to see if it opens and closes at its rated temperature. Handle with care since it is a precision device. New gasket and gasket cement should be on hand before removing thermostat.

injury or property damage as against death or permanent disability. Nobody likes horror stories, but let's face it, 36,000 persons in the U. S. are killed in car accidents every year. This is an incredible slaughter. And most of you house staffers have spent enough time in the emergency rooms of your hospitals to see at least one example of what happens when two or three cars come together at high speeds.

So, allow me my manic mania on the subject of brakes and make a few simple tests on your car.

First, ask your mechanic to check your brake linings. Then, ask him to make these adjustments, as necessary:

- adjust brakes (too tight: creates drag and costs gas dollars; too loose, danger.)
- check wheel cylinders for leaks
- add fluid to master cylinder, if needed
- check pedal level and pressure
- adjust emergency brake

Now, at ten miles an hour (on a street free of traffic), press hard on the brake pedal; your car should come to a straight stop without pulling to one side or the other. If it does pull, the mechanic will correct this at your request.

Lights

Many states now have laws requiring inspection of motor vehicles at regular intervals. One of the items on the list is lights. And with good reason. Improperly aligned lights on your car can blind another driver and cause an accident. So for safety's sake, check your light alignment at a service station. Also, make sure your headlights, tail lights, brake lights and directional signals are in proper working order.

Fuel selection

Now we're through with anatomy. Let's get to economy. With the advent of premium, super, and super-super gasolines, a choice of gasolines now faces the motorist. Fortunately for the economy-minded motorist, the cost of a given quantity of gasoline is not always a true index of its value to the car owner. Cost is determined by refining and additives, which in turn are aimed at higher octane to prevent premature detonation (which causes "knocking") and to introduce anti-rust and anti-icing ingredients.

If your car does well with "regular" gasoline and you do ordinary

driving, the extra anti-knock insurance of premium gasoline is a luxury which you do not need, and would not use.

Most cars of 1954 vintage or older operate without problems on regular grade gasoline. The reason for this is that over the years, the octane rating or anti-knock performance of all gasoline has been upgraded. One manufacturer has recently come out with a pump which can supply various octane ratings in gasoline. For example, owners of the highest compression cars which may require a higher octane gas for knock-free operation, can ask the attendant to dial the pump for the highest octane gas (at a higher cost). The pump then mixes a high octane concentrate with the regular grade gas as it goes into your car's tank; the pump meter automatically computes the cost of the amount and kind you receive. However, this manufacturer (Sun Oil Company) frankly tells its customers to use the lowest rating at which satisfactory driving performance is obtained.

Tip: regardless of the grade of gasoline you use, your car's timing must be set correctly for that grade to give maximum performance. If you switch grades of gasoline, ask the serviceman to "time" your engine for the new grade.

Gasoline is sold by volume, not by weight; it should be bought in the morning before it has had a chance to expand with the hot afternoon sun.

FAST RUN

An MD's auto is often cranky and sluggish. Sometimes the reason stems from the kind of use the car gets: Many short trips, cold starts, few runs at high speed on the highway. If your car is subjected to this kind of stop and go driving, it may help if you occasionally whip out on a highway and let the car roll at a good speed for a few minutes. Often this will shake loose carbon deposits in cylinder heads, free sticky valves and clean up fouled spark plugs. Result: your car becomes perky and peppy again.

However, this saving would be lost if you added gasoline to the top of your tank only to have it expand later on and escape through your gasoline overflow-vent onto the street. But it is advisable to keep the gas tank full in the winter. Why? Water condenses on cold metal surfaces. The interior of your gas tank presents such a surface. With more surface exposed (as in an empty tank) more water can condense. This water of condensation can severely corrode the gas line and cylinders. More to the point, it can freeze in the gas line, "thrombosing" it, and causing inability to start the car. (The occasional addition of a gas-line antifreeze, marketed as such, or as "dry-gas," to the gas tank in the winter,

keeps fuel line water from freezing.)

Incidentally, the gas line, prone to ice "thrombosis" in the winter, may be blocked by an "air embolus" (vapor lock) during the summer. In hot weather driving, especially in slow moving traffic, gasoline in the fuel line may vaporize. Vapor does not flow readily into the carburetor, and this "vapor lock" may cause your engine to stall. If this happens to you, use a moist rag to cool the fuel line leading to the carburetor. Usually, within a few minutes, the engine can be restarted.

Oil level

Maintaining clean oil at a proper level is vitally important to the economical operation of your car whether it be a heap or a new Cad. Service station attendants will usually ask to check your oil whenever you get gasoline. If they don't ask, you ask them. Also, get out of your car and watch them.

Every car is equipped with a dipstick, a narrow rod which fits in a tube leading into the crankcase or oil reservoir. The "stick" is plainly marked, with "full," "safe" and "add oil" levels clearly indicated.

Tip: Overfilling is not only wasteful, but can be harmful to the engine; oil should not be added until it has been depleted to at or near the "add oil" mark. The attendant will show you how much higher an added quart will raise the oil level as shown on the stick. (When measuring the oil level, withdraw the stick, wipe it free of oil, and insert it *all the way into its tube.* Then withdraw it and note the oil level.)

Viscosity

What type of oil should you use? Oil viscosity is measured in SAE (Society of Automotive Engineers) units such as SAE 5 (rare) 10, 20, 30 and 40.

It was once believed that in the summer, high viscosity oil should be used, and in winter, low viscosity. Actually, there are two considerations. If your car is an oil burner, that is, if your engine parts are so worn, and the piston rings are not riding snugly against the cylinder walls, then a thin oil is going to get by the rings and into the cylinders. The oil is burned (note the blue exhaust smoke typical of an oil burner) and it must be replaced every 200-300 miles or less. The question here is are you ready to junk the old bus soon? If so, use a heavy oil which will cut your oil bill way down even while lubrication is less efficient and the rate of engine wear increases rapidly.

However, if your car doesn't drink oil, and you intend to keep it, use a light oil (SAE 10), winter *and* summer. Oil engineers will tell you that the best possible lubricant is the one which is the *least viscous.* (Water would be excellent, in fact, except that 1) it rusts metal parts, and 2) it would turn to steam under the intense temperatures found inside the cylinders. If you find

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you are using too much oil, you can switch to a heavier oil—but always at the *sacrifice of increased engine wear*.

Presently available are the more expensive "all-weather" (10W-30) oils. When considering the opinion of oil experts just stated (light oil is the best lubricant) the advantage of these oils is hard to determine. However, it is well to remember that additives are put in oils by the manufacturer to help oil withstand higher heats, prevent rust, and to provide a detergent action to prevent sticky valves (hydraulic valves are subject to a kind of arteriosclerosis if the oil doesn't have an anticoagulant detergent). Most of these alter the actual *lubricating* properties of the natural oil. Thus, when adding oil, do not mix brands since the additives in one company's oil may react with the added chemicals in another company's product and your engine will end up the loser.

Change

The optimum conditions for driving are obtained by the vacationer who makes 250 miles a day in fine weather on main highways, holds his speed between 50-55 (with an occasional move to 65 to kick the carbon loose from the cylinder heads) and makes a couple of stops for food, etc. This is rare, of course. But it is optimum for many reasons. Most important, the air is dry, free of dirt and sand, the engine is operating at its proper temperature at a moderate speed, and there are few cold engine starts per hundred miles of travel. Also, water condensation in the gas tank and crankcase is evaporated before it can do damage.

Contrast this with the farmer who takes his truck on dirt roads once a day to a town four miles away and back. In 800 miles he has started a cold engine 200 times; more than half his mileage is covered with the temperature of the engine below its designed operating temperature. And every night, the moisture of engine operation condenses and drains into his crankcase so that at the end of the 800 miles he has accumulated literally quarts of water in his oil—not to mention sludge and other highly corrosive chemicals which have been created by the reaction of heat, water and oil.

The odds are good that as a resident or intern, your driving more closely approximates that of the farmer than the salesman. Your trips are short. Cold starts and cold running for short periods is your car's regular diet.

So, how about the oil change? For you, frequently. As often as once every 1,000-2,000 miles; not more than 3,000. (The vacationer, however, could go up to 10,000 without a change.) Throw in a trip after an oil change and you can add the trip mileage to your regular change mileage without trouble (if you don't speed at 65-80 on the trip).

How about some of those highly advertised additives. Baloney. They can do little except cost you money—and they can hurt your engine.

Incidentally, if your car has an automatic transmission, you may require the occasional addition of a special lubricant. Consult your car manual or mechanic about this.

Wear

A word about cold weather starts. The greatest amount of wear on a car's engine occurs when it runs cold and lubrication is impaired. When you start a cold car, don't race the engine. And don't sit with the car in neutral waiting for it to warm up. Get the car in motion right away—and *slowly* move toward your destination (20-25 miles per hour) until the temperature needle starts to come up a little. Then gradually increase your speed, still not exceeding 40 until the needle shows your engine is at a normal operating temperature. Any expert in the business will tell you this will prolong your car life—without repairs—as much as 40,000 more miles! The object of putting the car in motion is to put a load on the engine so it will heat up more rapidly than it would do if it simply idled. (See the discussion of thermostats under "Cooling System.")

Filter

Although you may have a permanent oil filter in your car's oil circulation system, most cars have a replaceable cartridge-type filter which is located within a steel "can" mounted alongside the engine.

Under normal driving conditions you should replace this cartridge at every other oil change. If you are having the oil changed because of some extremely dirty or sandy driving conditions, however, change the filter at this time, too. (Also make sure the serviceman aspirates the oil and guck collected in the bottom and sides of the filter holder—he has a special suction gun for this—and wipes it clean with a clean dry cloth.)

Lubrication

Mechanics agree that frequent lubrication, which prolongs the life of many automotive parts and which reduces frictional power loss, is one of the most important parts of a car care program. The car should be greased regularly every 2,000 miles or at the end of thirty days, whichever comes first. After driving through a wind storm or going through a sandy or flooded area, the car should be greased as soon as possible.

At least twice yearly ask the man lubricating the car to put powdered graphite into all your auto locks. This is especially important in a hard winter area since graphite helps to prevent locks from freezing. Tip: if door lock freezes, heat your key and insert into your lock a few times; this will usually free the lock. Also ask him, once or twice a

year, to apply a paste wax or stick lubricant to your fan belt.

Cooling system

In older cars, the cooling system is one of the most frequent sources of trouble. This is often due to fraying and wear of the rubber connections and fan belt, and these should be checked bi-annually, and replaced as necessary. Rust, which causes leaking at the site of formation and clogging of the cooling system elsewhere, is another trouble source. Excessive rust formation can be prevented by emptying the radiator and flushing it with clean water twice a year. In the fall, it should then be filled with fresh anti-freeze (which contains an anti-rust compound) and in the spring you should again add an anti-rust compound. Do not mix different types of anti-rust compound or different brands of anti-freeze, since chemical inter-reactions may then occur which could harm the radiator. When the anti-freeze is drained in the spring, it is also frequently recommended that the radiator be cleaned out by a chemical cleaning compound. If you have a backyard hose available, you can do both radiator draining and cleaning easily and cheaply, since the cleaner and and anti-rust compounds usually cost $2.00 or less, and there is very little labor involved.

Instructions are always printed on the can or box. During the summer, while having the car greased, ask the mechanic to use a compressed air hose to clean the radiator core by blowing air through the core, in the direction away from the engine block. Keeping the core free of dust and insects in this way will help to provide maximal radiator function. If your car overheats in heavy summer traffic despite these precautions, check with your mechanic. Don't simply race the motor with the car in neutral whenever standing still with the hope of keeping the temperature in your engine down by increasing fan action.

Thermostat

An important and too often neglected item in car maintenance is the thermostat. Located between the radiator and the block, usually at the point where the upper radiator hose connects to the engine head, the thermostat element (valve or cartridge) controls engine temperature by regulating the rate of flow of radiator coolant to the engine water jacket.

Thermostats are rated according to the temperature at which they open such as "160 degrees (F.)" or "170."

On a cold morning, your thermostat is closed at the time you start your car. It stays closed, blocking any water from circulating through the radiator until the water which is in the engine jacket has reached the temperature at which the thermostat opens. Thus, the thermostat, under normal conditions will regu-

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late the water temperature within a few degrees.

The advantage of course, is to reduce engine wear by shortening the time for a cold engine to reach running temperature. This saves engine wear. Have your thermostat checked (in a pail of hot water with a thermometer) to see that it hasn't rusted closed or corroded so that it is not working properly. (This is one cause of a too cold or too hot engine.)

Battery care

The battery is of great importance, not only because of its cost but also because it invariably ceases to function on the mornings when you are expected in the O.R. or at Grand Rounds. A new or clean battery should be protected by coating the battery terminals with petrolatum. If corrosion is present, a discarded O.R. scrub brush and a small amount of bicarbonate of soda water will quickly remove this. (Watch your clothes, doctor, that corrosion is acid!)

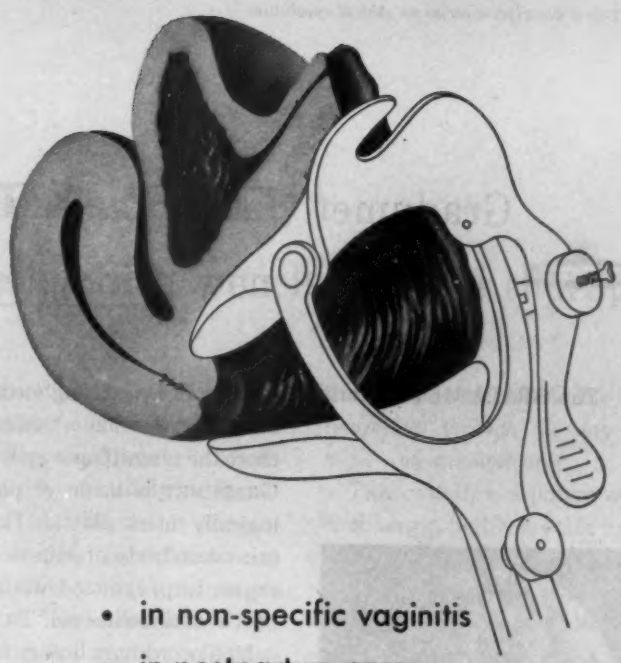
Also, be absolutely sure that you don't force the cables off the posts; loosen the cables, lift them off the posts, lightly sand the posts, which are made of lead, until they shine. Run sandpaper around inside of the battery cable loop which fits over the posts. Then coat both with petrolatum and replace.

Ask your mechanic to show you how high the water level in your battery cells should be. For most batteries unless otherwise indicated, the proper level of this fluid should be kept so that the water just covers the plates (which appear as a number of parallel narrow slits). Be sure that you check the battery fluid regularly. Although distilled water should be added to bring the battery level up whenever it is low, very few gasoline stations have distilled water and tap water is used. The reason distilled water is preferred is because of its lack of impurities; but the difference in battery life between using tap water and distilled water is not too important.

Ignition system

The distributor takes the high voltage from the coil and "distributes" it alternately to the spark plugs through the distributor "points." Points should be replaced, together with the spark plugs, as often as indicated by their condition (this can be checked by inspection—ask your mechanic to show you). Usually this replacement is necessary every 10,000 miles.

Periodic checking and proper installation of the points and plugs provides for increased power and better mileage per gasoline gallon. It is, therefore, an economy measure in the long run. Care of the air filter is also an economy measure, as it boosts gasoline mileage by assuring an adequate supply of air to the carburetor, and keeps dust and dirt out of the carburetor. If



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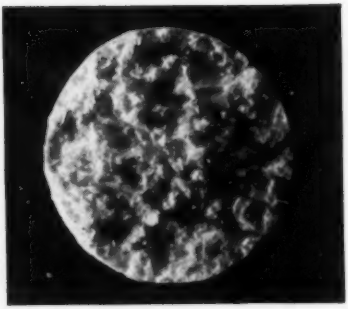

Photomicrographic cross section of empty GRADUMET. *Note hundreds of interstices to be impregnated with* TRAL. *Drug leaches out evenly over 8 to 12 hours.*

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your filter is of the wire mesh type, you can easily clean it yourself by sloshing the mesh in a pail containing a pint of gasoline or kerosene, lubricating it with a few drops of engine oil, and then replacing the mesh. Do this at every thousand miles. If your filter is of the oil type, change the oil every 3,000-5,000 miles depending upon the road conditions in your area.

Tires

The pressure in your tires affects the span of tire life, your car's gasoline consumption, and your riding comfort. Your car manual lists the optimal pressure for your tires, or your mechanic can tell you what it should be. A pencil-shaped small tire gauge (cost $1.00-2.00) is a good investment, and should be used to periodically check your tires in the morning before you begin to drive. Tires will pick up air during a long drive. At a time when your car is up on a grease rack, look at the tires, and have the mechanic use a screw driver to remove any pebbles, nails or pieces of glass that have insinuated themselves between the treads.

Exterior care

There are many compounds available today to help the house staffer keep his car looking halfway presentable as it sits in ancient magnificence in the hospital parking lot.

Unfortunately, all such compounds require a human to work at applying them in order for them to do their job of shining up the car. Simoniz paste, for example, is a backbreaking job. No matter how you slice it, you rub until your arm falls off. Yet, the product is effective in that it lasts longer and gives a better protection than the liquid waxes in normal application.

Also, a cleaner is generally recommended by polish manufacturers which is applied before the waxing operation. If you must wax your car, whether for prestige or because of social pressure (or spouse pressure—which is far harder to resist) do it a bit at a time. First a fender and the hood, then perhaps the door and rear fender on the same side, then the top, etc.—all at different times.

Most important, do your waxing out of the sun and on a dry day.

Another polish which has many merits is a 100% silicone polish—no wax at all is involved. It goes on without rubbing and after it is thoroughly dry, comes off like chalk dust leaving an extremely tough and lasting finish. Cold water with a bit of mild soap, plus a thorough cold rinse will, at regular intervals, preserve the beauty and will not affect the silicone finish. It lasts up to 10 months if the car is garaged at night—and up to 6 months if the car is out 24 hours a day. Put it on the chrome, too, although nothing will really protect the cheap chrome they put on some cars these days.

If you lavish the care that you might normally expend on the exterior of your car on the engine instead, you'll get better transportation at lower cost.

However, the touch-up paint, mentioned earlier, if liberally applied, will slow down rusting. Also, the rubber liners around your car doors can be replaced by you at little cost and it will improve the riding comfort of your car by sealing door openings.

Diagnostic problems

If your car won't start, the disorder can be localized to the electrical system or the fuel system by means of a "spark test." Next time you get gas, ask the mechanic to show you how to do this. The test is simple, and the only tool needed is a screwdriver with an insulated handle. If the test shows a strong spark, assume that the difficulty is in the fuel system, and suspect ice in the fuel line or vapor lock, depending on the season. (Be sure the fuel tank is not empty.)

If the fuel pump bowl shows no gasoline, suspect a blocked fuel line; if full, suspect the pump or a block between it and the carburetor, or a frozen or faulty automatic choke. If you recently turned the engine off after a hot run, suspect flooding (carburetor overflow). *Keeping the accelerator pedal to the floor* (car in neutral), work the starter continuously for a few minutes. This action may draw excess gasoline from the carburetor, and allow for the entrance of a more properly adjusted gasoline-air mixture which will ignite more readily.

If there is a weak or absent spark, be sure that the ignition switch is turned on (right key?).

Look for a loose battery cable or loose wires. With a *dry* rag, wipe away any water which may have splashed or condensed onto wire connections. The most common cause of a weak or absent spark is a run-down battery.

Tip: Too dim lights or a weak horn will corroborate this.

If your battery has run down, and the cause is not obvious (radio or lights left on for a long time, etc.) make a note to have the mechanic check for possible short circuits after the battery has been recharged or replaced.

After any case of battery rundown be sure to have a "load-test" and other tests done, to help determine whether the battery is salvageable. If it is, borrow a battery from your service station, leaving yours for a slow recharge (24 hours). A fast charge will shorten battery life compared to a slow charge.

Overheating

If your car suddenly overheats during a drive at average speed, pull off the road as soon as possible, and examine the fan belt. If it is broken, do not proceed further until it has been replaced (the nearest garage mechanic will bring out a

new belt and replace yours on the spot). Another cause of overheating is a jammed thermostat or rust plugging the radiator; this condition may sometimes be diagnosed by placing your hand in front of the radiator with the motor off. If a part of the radiator core is hot and another part cold, obviously the hot water from the engine is not circulating to all parts of the radiator. This is an indication for a radiator cleaning by your garage. Check the radiator water level frequently, and add water as necessary.

If your car overheats in the spring or summer and your anti-freeze is still in the radiator, drain it. Anti-freeze (both temporary and permanent types) is a less efficient coolant than water.

If your car tends to overheat but the cooling system appears normal, remember that generation of too much heat can cause overheating as well as improper heat dissipation. Under such circumstances, check the air cleaner, the oil level, the points and the spark plugs to be sure that the engine is operating efficiently and not producing more heat than it should.

Auto doctor's bag

Your automotive "doctor's bag," kept in the trunk, should include the following: A strong (three-cell) flashlight, one large and one medium-size screwdriver with insulated handles, a Phillip's-head screwdriver for interior screws which may come loose, an accurate tire gauge, a brush broom for the interior of the car, clean rags and sponge for the windows, a window scraper for snow and ice, a sturdy jack, two wooden wheel wedges and a tire-changing wrench.

If you drive on rutted roads, roads with soft shoulders, or in an area which has deep snows, a short length of strong rope for towing takes up little space, and may one day prove invaluable. Chains, a shovel, and a box of sand are also necessary in some parts of the country during the winter months. A red flag, and flares or signal lamps in case of night emergencies should always be in the trunk. (Although optimistic by nature, I also carry a fire extinguisher.) Finally, an old coat (an anatomy lab apron is perfect) should be kept in the trunk to protect your clothes during emergency repairs.

Booklets

Many fine "how to do it," and "what to do if" booklets are available on the subject of car care. I recommend carrying one in your glove compartment, if only to provide reading matter while waiting for the tow truck to arrive. "Car Service and Repair" and "Car Care," both by Fred Russell (Fawcett, 75c), "Motor's Trouble Shooter" (published by *Motor*, 250 W. 55th St., NYC), arranged as an Index of Differential Diagnosis, are books that I have found very help-

ful. *Popular Science, Mechanix Illustrated, Motor Trend,* and other periodicals also carry articles on automobile care suitable for clipping and later reference.

This article is not meant to be a complete dissertation on the care of the automobile. However, I believe that these impressions and suggestions constitute sound advice, and I hope that your knowledge of them will pay you dividends as you continue to use your car. Happy motoring.

"All the lab work's done, can I come back up to the ward now?"

The epileptic suffering a seizure may do serious injury to himself or others; when this leads to a legal action, courts rely heavily on medical testimony.

Epilepsy and the Law

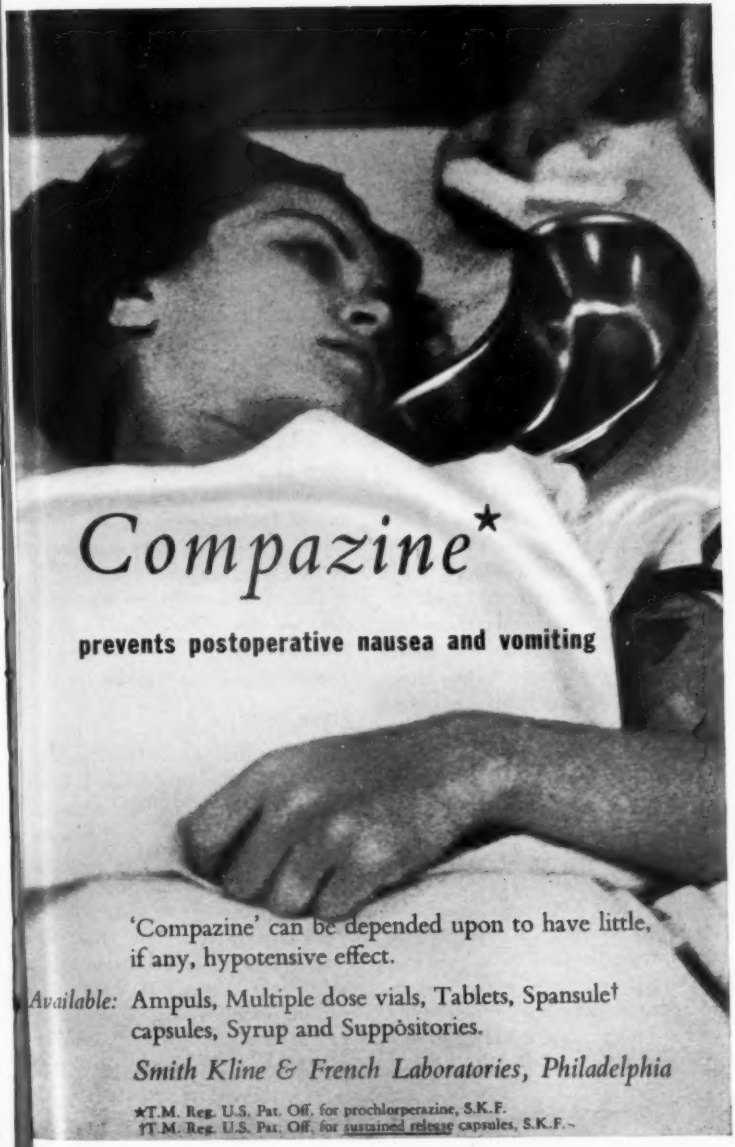
George A. Friedman, M.D., LL.M.

Epilepsy is characterized by repeated disturbances of consciousness and almost invariably some motor or psychic abnormality of behavior associated with amnesia. There are three major types of epileptic seizures: grand mal symptomatized mainly by serious convulsions; petit mal characterized by momentary unconsciousness; and psychomotor seizure which is distinguished by amnesia and odd, often maniacal, behavior.

While amnesia is common to all three types of seizure, it is most significant in the third type which is distinguished by mental rather than motor phenomena. A fourth classification, traumatic or Jacksonian epilepsy, overlaps grand mal and petit mal epilepsy in its symptoms. Its origin is injury to the brain.

The convulsions suffered by the epileptic may result in serious injury, often to the epileptic himself. The legal situations which thus arise are many. Was the epileptic negligent in undertaking certain activities, such as driving a car? Was the employer negligent in hiring him for certain types of work? Was injury to the epileptic caused by his disease or by the negligence of another? Cases of traumatic epilepsy create further legal questions, ones based on matters of fact for which the court must depend primarily on the physician: Was the epilepsy caused by the accident? Will epilepsy develop in the future by virtue of a head injury? What is the extent of plaintiff's disability? To what extent can his disease be alleviated by drugs?

The amnesia and temporary de-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rangement incident to a psychomotor seizure may result in brutal crimes over which the patient has no control or even subsequent recollection.

Medicine has made great strides in the determination of the nature of epilepsy and in the alleviation of its symptoms by drugs. But the law has not kept pace, particularly in its eugenic marriage and sterilization laws.

Auto accidents

The most common form of accident the epileptic causes is an auto accident.

In the Wisconsin case of *Eleason v. Western Casualty and Surety Co.*,[1] an epileptic truck driver suffered a period of unconsciousness while driving, lost control of his truck and injured plaintiff. Although the truck driver was ignorant of his epileptic condition, he was aware that he was subject to fifteen minute fainting spells.

The court ruled that driving a truck under these conditions, thus endangering the lives of others, was negligence as a matter of law. Negligence in this case was not a question of fact to be determined by a jury. Significant in this decision was the Wisconsin law forbidding the issuance of a driver's license to epileptics.

The law employs more rigorous tests in determining responsibility of the epileptic in a case of criminal negligence.

In *People v. Freeman*,[2] a California case, the defendant, with a history of epilepsy, felt unwell at a friend's house and left saying:

"I think I can make it home and that is where I belong."[3]

He suffered an epileptic attack while driving home, causing a collision in which one person was killed and another injured.

The court said that if the defendant knew of his past epileptic condition, and was in a normal mental condition when he left his friend's house, driving a car constituted criminal negligence. But if he already was in an epileptic state when he left the house, he was not responsible for his actions since one of the requisites of a criminal act is knowledge or consciousness of that act. California law, similar to that of Wisconsin, forbids epileptics to drive. Defendant's mental condition when he left the house was a question of fact for the jury.

State laws

Most states have laws regulating the issuance of drivers' licenses which prevent epileptics and others such as the insane and chronic alcoholics from receiving licenses.

- Nine states forbid the issuance of drivers' licenses to all epileptics.
- Fourteen states, including New York, require special examination and individual attention prior to the granting of licenses to epileptics.
- In thirteen, medical consultation and special examination is part

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1. Herrle, R., and Del Giacco, R. R.: Am. Heart J. 32:300 (Aug.) 1956. 2. Weiss, A., and Steigmann, F.: Am. J. M. Sc. 227:168 (Feb.) 1954. 3. Dimitroff, S. P.; Griffith, G. C.; Thorner, M. C., and Walker, J.: Ann. Int. Med. 39:1189 (Dec.) 1953. 4. Heitmancik, M. R., and Herrmann, G. R.: Texas J. M. 51:233 (May) 1955. 5. Batterman, R. C.; DeGraff, A. C., and Rose, O. A.: Circulation 5:201 (Feb.) 1952.

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of the epileptic applicant's test.

• In California and New Jersey, doctors must report the names of their epileptic patients to the Motor Vehicle Bureau so that the epileptics' licenses may be cancelled.

In Pennsylvania, Irwin, an epileptic, appealed from a lower court decision suspending his driver's license.

In upholding the decision, the court said:

"There will, no doubt, be common agreement that a person afflicted with epilepsy is incompetent or unable to exercise reasonable and ordinary control over a vehicle on the public highway."[4]

The Court indicated, however, that armed with a doctor's certificcate stating that the epilepsy was under control, the petitioner would be re-eligible for license. Pennsylvania has consistently refused to issue licenses to epileptics unless a 3 to 5 year period of freedom from attacks can be proved.

Third persons

Third persons may also be judged guilty of negligence in placing cars in the hands of epileptics.

In *Golembe v. Blumberg*,[5] a parent purchased a car for his adult epileptic son. The parent was held liable for a subsequent accident. The court held that it was negligent to endanger the lives of others by placing a potentially dangerous instrument in the hands of an epileptic.

In *Lucas v. City of Juneau & Sears, Roebuck & Co.*,[6] the city was liable for an accident caused by an epileptic ambulance driver employed by it when he lost control of his ambulance during a fit.

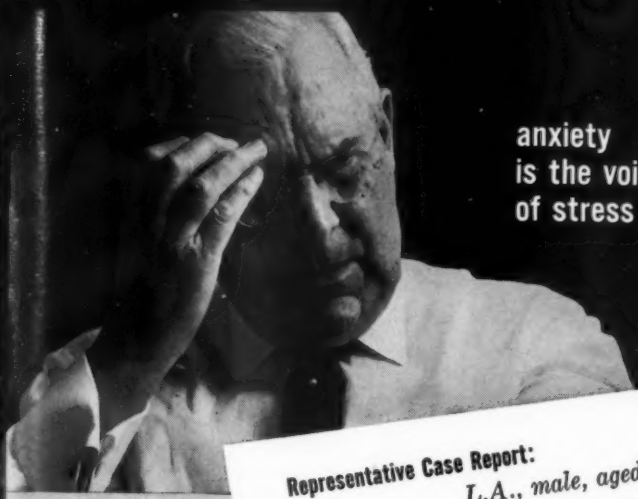
A Tennessee court held that it was a question for the jury whether a taxi company used due care in hiring its drivers when one of them caused an accident during an epileptic attack.

In *Eleason v. Western Casualty and Surety Co.*, previously discussed, the employer was not liable since it had made reasonable investigation and was unaware of the fits to which its employee was subject.

Stasel v. American Radiator and Standard Sanitary Corporation[7] was a 1955 case in Workmen's Compensation. The employee, Stasel, was injured during an epileptic fit by falling either on a hot stove or hot sand. Stasel was unaware that he was afflicted with epilepsy of the grand mal type. The Board held that the injury was compensable.

Not limited

The Workmen's Compensation Act said the Board was not limited to employees in good health, and here employment was a contributing factor. The majority of jurisdictions are in line with this case; the minority hold that in order to be compensable, injuries must arise solely out of the employment and not be caused by seizure.[8]



anxiety
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of stress

Representative Case Report:
L.A., male, aged 60

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Puszharewicz v. Prudential Insurance Co.[9] involved an insurance policy which provided for double indemnity in case of accidental death. Both medical witnesses testified that deceased had been stricken with an epileptic seizure while in the bathtub.

One physician believed that the cause of death was the blocking of the lungs by hemorrhages caused by an epileptic attack which precluded their functioning, while the other was "more inclined to believe that this fellow died of asphyxiation or suffocation because of his nose and mouth, as the result of the convulsion, being under water." The latter attributed the massive hemorrhages to the insured's convulsive attempts to breathe with his head under water while unconscious from the epileptic attack. The court held that this testimony was insufficient to support a recovery for death by accidental means.

Under a disability policy it is for the jury to decide whether frequent seizures result in total disability, and lay opinion of plaintiff's past behavior is relevant as well as medical opinion.[10]

In *McPartland v. State*,[11] an epileptic, while hospitalized because of his condition, lost consciousness, fell into a small shallow tub used for watering cattle and drowned. No recovery was granted: this was not an event which would reasonably have been anticipated by prudent hospital management, especially since deceased's mental condition at the time of the accident was good and he was under consideration for convalescent discharge.

In *Lipps v. Milwaukee Electric Ry. & Light Co.*,[12] damages were refused to a child whose epileptic seizures were alleged to have been a result of prenatal injuries before foetus could have been born viable.

Traumatic epilepsy

Traumatic epilepsy is believed to be caused by formation of scar tissue following laceration of the meninges and brain. As the scar tissue grows older it contracts with the result that traction may be exerted on the brain, creating a focus of irritation. Automobile accidents and Workmen's Compensation cases account for much of the law on the subject.

Once it has been determined that epilepsy exists, and that the fit or convulsion is not caused by post-operative shock, for example, it is necessary to establish to the court's satisfaction that epilepsy was caused by trauma.

In *Kennedy v. Holmes Const. Co.*,[13] a neurosurgeon was guarded in his opinion that claimant's convulsions were caused by a blow on the head: "All I can say is that it is the most likely cause." But claimant's personal physician testified definitively that the condition was due to a blow on the head.

The court said: "Medical testimony is essential here; a causal con-

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nection between the original injury and claimant's present disability must be shown by positive expert opinion evidence of such quality and quantity as to amount to more than a probability, conjecture, or guess. . . . The medical expert must testify, in effect, that in his professional opinion the result in question came from the cause alleged."

The court held that while the opinion of the expert alone might not be sufficient to support an award of damage, the opinion of both physicians was ample.

Compensation

In *Cole v. Miami*,[14] a case in Workmen's Compensation, claimant had three convulsive seizures. He sought to establish to the satisfaction of the Workmen's Compensation Board that he had traumatic epilepsy due to an accident which occurred at his place of employment. Physicians testified that his convulsions were a result of three possibilities: scar tissue, neurosyphilis or brain tumor and that positive diagnosis could not be made without encephalogram tests.

Claimant refused to undergo examination by encephalogram because of the danger attached which was minimized by a specialist, and award was refused.

A 3 year 10 month old child sustained severe head injuries including probable permanent damage to the base of the brain when struck by a truck. His physician testified to the possibility that scar tissue would form over the injured part of his brain and cause traumatic epilepsy. Plaintiff was awarded damages in the amount of $8,908.60.[15]

An award of $54,000 was upheld when a boy of 13 was injured in an automobile accident. The court said:

"Considering the nature and extent of plaintiff's injuries and disabilities [fracture through base of skull, contusion to brain stem, hemorrhage from the ear and profuse bleeding], pain and suffering, *the possibility of developing epileptic seizures*, his age and life expectancy, the present purchasing power of the dollar, we cannot say as a matter of law that [the amount of the award] is excessive."[16]

In this case three doctors testified only to the possibility of the development of traumatic epilepsy. They declared that they could not say definitely whether it would or would not develop.

Courts liberal

In cases similar to those cited above where epilepsy has not resulted by the time of trial (usually one to two years after the accident has occurred), it is difficult for the court to determine the amount of damages. Medical testimony is often conflicting. In borderline cases where epilepsy may or may not develop in the future, physicians seldom can be pinned down to a yes or no answer by virtue of the nature of the case. Here the court may have

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"He couldn't swing a bat without hurting"

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*U.S. Pat. 2,628,185

to rely on past histories of similar cases.

So a physician may testify that plaintiff has a severe depressed fracture of the skull involving laceration of the underlying meninges and brain, and that 20 to 45% of known cases developed traumatic epilepsy after such an injury. The courts are usually liberal in finding that epilepsy will develop since plaintiff has only one chance in court.

Libelant suffered head injury when struck by a winch while working as a deck hand. Recovery of $85,000 plus free medical treatment and hospitalization as needed was awarded. His injuries—disfiguring depressed scar on side of head, epileptic seizures, severe aphasia, depressed moods and extreme nervousness—resulted in total disability.[17]

Plaintiff, an unemployed cook who was already psychoneurotic, only received $45,000 from a head injury with brain damage resulting in traumatic epilepsy, post-traumatic psychosis and other minor neurological symptoms. He did not sustain a general loss of earning capacity which a person would ordinarily be compensated for under normal conditions.[18]

Determination of damages is made on the basis of the severity and frequency of attacks, the efficacy of anti-convulsant drugs in the particular case, and whether or not plaintiff can work at his former job or be rehabilitated in a new job. The prejudice of employers in hiring epileptics is also taken into account. Testimony of the physician is the determining factor in each case.

Evidence

The following case is illustrative of the evidence the physician supplies to the court. Plaintiff was awarded $72,867.28 in a 1954 New York case.[19] He was hit on the head by a falling rock when he visited a state park and suffered severe injuries including traumatic epilepsy. Plaintiff relied on two expert witnesses, both neurosurgeons. One of the neurosurgeons testified that plaintiff had "traumatic epilepsy which is the result of scarring of brain . . . resulting in periods of blackouts in which he feels unsteady for several seconds at a time.

"Now when he gets them [episodes of dizziness] he gets two or three in a day, and this definitely results from the scarring of the brain and the intermittent impairment of consciousness."[20]

The traumatic epilepsy was attributable to the accident.

The second surgeon testified in substance that the epilepsy was a permanent condition. He stated further that nothing could be done operatively to effect a cure. Plaintiff got relief from drugs which helped his motor control, but not his mental condition. His employability was injured by his condition.

"I want to state for the record

"Doctor, Tommy's thrown up three times!"

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that if I was plant physician he would not be on the job. He was a first-class tool-maker and machinist. Now he lacks the capacity to think or do more than a repetitive job. Moreover, since his period of loss of consciousness, his work with moving machinery has become hazardous. Plaintiff has become a very dull man and prematurely senile. His traumatic epilepsy is incurable and will get worse. His life span has been shortened by a decade.

"It is interesting to note that even in mild forms of epilepsy, you never see any epileptics after the age of 60 because they are all dead, and they die of inner effects that are about 100% associated with their epileptic condition."

Criminal cases

Magnus was convicted on a charge of disorderly conduct. On appeal the conviction was reversed because undisputed medical testimony showed that the act was committed during an epileptic seizure.[21]

In order for an epileptic to be excused from criminal responsibility he must have been under the influence of a seizure during the act, and the act must have been a result of the seizure. Proof of epilepsy in a criminal case is based on past history, description of behavior during crime, and results of an electroencephalogram.

Despite their limitations electroencephalograms sometimes offer some objective evidence of permanent brain injury. Gibbs[22] indicates that EEG's have given "good and useful correlations" in 1) organic injury to the nerve cells of the brain, 2) traumatic and non-traumatic epilepsy, 3) age, and 4) states of consciousness and unconsciousness.

A normal encephalogram may result even though epilepsy or organic brain damage exists. Thus pathology may exist deep in the brain and yet not show up in the tracings.

In England a few years ago, the EEG was used to prove epilepsy in a murder case. Prolonged clinical observation of defendant in the prison infirmary produced no corroborative evidence. The circumstances of the case and the observations of two medical witnesses suggested that the prisoner was an epileptic. Conclusive proof was obtained by an EEG and defendant was judged guilty but insane.[23]

In *State v. Clark*,[24] defendant suffered epileptic seizures during the trial. The trial was suspended during convulsions and not resumed until the judge was assured the defendant was well enough to proceed.

It was held that the evidence did not support a contention that defendant was not medically present at all times during the trial.

Eugenic laws

Vendetto v. Ventetto,[25] the husband was granted a divorce on the grounds of fraudulent concealment of epilepsy by the wife at the time

of the marriage.

In a New Jersey case, a marriage was annulled because of a similar fraudulent concealment despite the fact that the marriage was consummated.[26]

In 17 states it is a crime or a misdemeanor for an epileptic to marry. While in most jurisdictions the marriage is voidable only, in Connecticut and Wisconsin the marriage is null and void and the children are illegitimate. In those states without statutes, fraudulent concealment of the disease is grounds for annulment.

Nineteen states have laws permitting sterilization of epileptics.

These eugenic laws were enacted at a time when it was believed that epilepsy was primarily a hereditary disease, and before alleviative drugs were discovered. Most of these laws are outmoded and have not kept pace with medical discovery in the field.

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QUIET, PLEASE!

YOUR WIFE'S TALKING

Syndrome: Physician's Spouse

Diagnosis is quickly determined — but the treatment of choice? That's another matter.

Elizabeth Beltran

Medical journals are, of course, filled with descriptions of diseases and their treatment. Even popular national magazines carry the details on this or that disease. In fact, almost any old disease you care to name has been written up recently somewhere. All except one, that is.

There is one affliction both widespread and chronic that is never referred to in medical literature. Such an omission is truly intolerable in this day and age—so I've taken it upon myself to enlarge an area of medical knowledge a millimeter or two.

I think I can describe the disease but I must admit I haven't discovered a practical cure and I doubt if there is one.

The outlook for treatment, however, is bright, if not downright gay, so I urge other residents' wives not to despair. You see, you have it, too.

The disease to which I refer is *Physician's Spouse*. This affliction (or syndrome, if you prefer) is peculiar to females whose husbands have an M.D. dangling after their names. (M.D., of course, stands for Mostly Departed.) Actually, the fact that the husband is a doctor is the only limiting

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FROM THE AUTHOR

"The enclosed article is sent in response to your request for contributions from readers' wives. My apologies for the terrible typing but I worked under rather harrowing conditions. We have three children under five years of age and a mentally retarded dachshund. All are fascinated by the typewriter. My husband is a second year anesthesiology resident at the Veterans Hospital here . . ."

description. Age, weight, race, blood type, and length of hair have no statistical significance.

No difficulty

Diagnosis presents no problem. There need be no process of elimination through differential processes. If you are the wife of a doctor, you've had it—and regardless of any clinical evidence which might indicate recovery, absence of symptoms is bound to be temporary and a recurrence is inevitable.

Treatment, alas, is quite another matter. The only known cures are either isolation or amputation. Most researchers believe these to be much too radical to be considered effective—many go so far as to say that both of these cures are worse than the disease.

Therefore, for practical reasons, we must consider more conservative areas of management through which supportive care is possible, though the course may be long and difficult.

Little is known of the etiology of the syndrome except that there appears to be various stages, each somewhat different from the others. This paper will concern itself with the first stage which has been termed *Resident's Spouse*. This includes *intern's spouse*—but since those afflicted with the former have already survived the latter, the latter and former can be considered synonymous.

Treatment for *Resident's Spouse* consists of massive doses of rationalization continued at regular intervals. This treatment should be instituted immediately following the wedding and continued as long as symptoms persist. Advantages of this treatment are many; it's cheap, readily available and requires only minor instruction as to method of application. (Don't confuse rationalization with self-pity. The latter is extremely toxic and the side effects are of sufficient severity to contraindicate its use under most circumstances.*)

---

* Ed. Note: *Use only under direction of a physician.*

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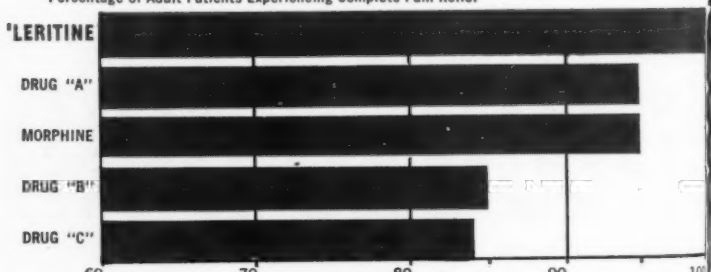
- In a series of 300 patients, anileridine, used as a primary anesthetic agent, "appeared to be more potent than meperidine, and with the drip method, no significant apnea or hypotension occurred.... Analgesia appeared to persist up to three hours postoperatively."[3]
- "In this study, anileridine was found to be two and one-half times as potent an analgesic as meperidine on a milligram basis."[4]
- In a comparative study of 278 patients 'LERITINE' gave profound relief with potency approaching that of morphine with minimal side effects. [5] This is illustrated in the following chart:

CHART 1: COMPARATIVE RELIEF OF POSTOPERATIVE PAIN (3-Day Period)

Percentage of Adult Patients Experiencing Complete Pain Relief



Long-acting 'LERITINE' gave profound relief with fewer doses in this study of pain control in 278 patients after surgery. The patients were observed during three postoperative days to compare the analgesic potency of anileridine, morphine sulfate and three other narcotic analgesics.

Onset of relief was from 10 to 30 minutes after intramuscular injection of anileridine. Duration of relief varied from 2-8 hours. No side reactions or toxic effects from anileridine were encountered.

'LERITINE'
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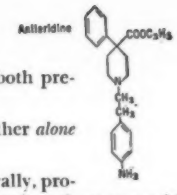

'LERITINE' relieves pain and dispels apprehension both pre- and postoperatively.

'LERITINE' has provided good obstetric analgesia either *alone* or with scopolamine or barbiturates.

'LERITINE' in recommended doses, orally or parenterally, produces significantly fewer and less severe side reactions than those seen with certain other potent narcotic analgesics: nausea and vomiting are rare, central nervous system side effects are mild in nature or absent, and effects on heart and blood pressure are minimal.

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ORAL: Adults—25 mg. repeated every 6 hours if necessary. Up to 50 mg. (or more frequent 25 mg. doses) for severe pain.

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Concentrate

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Also, unemployment is no problem. Your husband will never have to stand in line for relief checks (though he'd probably double his income if he did). Incidentally, that's one problem you won't have. Money. Don't, for example, waste your time on articles on "How to Manage Your Money." You won't have any. Of course, too much importance is attached to this subject anyway. There are lots of things, according to Joe E. Lewis, that money just can't buy. Poverty, for instance.

Besides, they say you can't take it with you. (I've heard that many people, because of this, absolutely refuse to go—others arrange to have it sent.) Not having money means you must give up a few things. But most of them are unimportant items like food, clothes, shelter and stuff like that.

Another advantage *Resident's Spouse* produces: all problems of interior decoration are solved. Any empty corner (there are generally four to a room—so, if you have one room, which is par for the course, you have four, count 'em, empty corners) can be decorated with medical books and journals. These come in delightful shades and shapes. The journals are particularly colorful.

We have a lovely one on the coffee table now. The cover consists of a beautiful color photograph of a chartreuse pancreas—it adds just the right contrast to the purple lamp we got as a wedding present. If you're not fond of chartreuse, you can find other journal pictures, perhaps a liver or an icteric kidney, which would fit into your color scheme better. There's an endless variety.

You know

Incidentally, those books and journals are a potential source of danger. If you've been tempted to read them, don't. Oh, it's perfectly alright just to nibble a bit here and there, but don't get in too deep. I've learned a little by reading the journals. For example, when I was married, I didn't know a gall bladder from a sacroiliac. Now I know. The gall bladder is north. This kind of knowledge is pretty important. Not that you'll use it, but it gives you the inner confidence necessary for survival while the medical conversation (is there another kind?) goes around you.

You'll still sit in the corner alone, unnoticed, completely ignored. But you'll be smiling. You *know*. A word here, a word there. You *know*. You *read* about it, didn't you? You're not as dumb as he thinks you are. Don't tell *him*

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or interject your knowledge into the conversation (they'll only pretend you didn't say anything and go right on talking). Just smile. You *know*.

I must admit this doesn't always have the desired effect. I can remember one such interminable medical conversation. I was sitting there, bravely smiling. Evidently my smile was a bit tight. My husband kept looking at me (a victory in itself) and finally he hopped up, came toward me with a worried frown. "Gas pain?" he asked quietly.

I've since changed the smile around a bit.

Actually, how could he be expected to recognize a slight flare-up of *Resident's Spouse?* And if I kicked him in the shin, what good would that have done?

Neighborhood consultation

Another characteristic of the disease manifests itself in what might be termed "neighborhood consultation." At first you might not recognize it for what it is. That is, it may begin with a telephone conversation. A neighbor calls, ostensibly to discuss her new coffeematic or perhaps the merits of Picasso in the living room as against Degas in the den. But somehow, the conversation shifts smoothly to chicken pox, the symptoms, the incubation, the treatment—all in generalities, of course. Next, you learn that her Algernon has a slight "temp" and she thinks she notices a slight rash.

"Did he throw up?" you ask. Suddenly you realize it. You're trapped. You aren't just any mother passing out wrong information. You're a doctor's wife—passing out wrong information. She's asking you precisely *because* you're a doctor's wife. And the fact that your husband may be a proctologist doesn't seem to alter your position in "neighborhood consultations" on pediatrics.

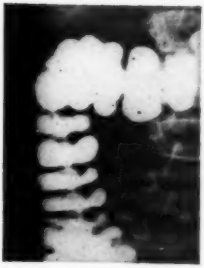
Social problem

Also, perhaps you've noticed that most women who are not doctors' wives absolutely depend on it that a doctor's wife is a nurse. If you are, use your own judgment. If you're not, run and hide in a closet when you're asked for medical advice.

Actually, it can become a social problem. But that's all part of *Resident's Spouse* and must be handled with care. If you are used as a walking encyclopedia, which is the most common function you are expected to fulfill, you'll know what roseola infantum is and why Doctor Smith charged three dollars when he didn't even give little Beauregard a shot. If you pretend not to know the answers, you'll be regarded as either the biggest blithering idiot on the block or a real cold fish. Neither appellation is particularly complimentary or conducive to a happy state of mind.

Only a sample

Perhaps one of the most terrify-



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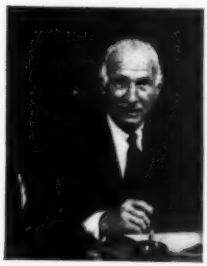

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ing things about *Resident's Spouse* comes with the reading of medical books. Once you fail to sample indiscriminately and really start *reading* (sometimes you're swept along, hoping for a plot to appear) you may begin to feel unwell. Then, even if you drop the book after completing only nine of the symptoms of a particular disease (all of which you definitely have), you're going to feel yourself becoming acutely ill.

Don't. for heaven's sake, tell your husband. He won't remember his student "illnesses" brought on by reading.

Two years ago I knew beyond the shadow of a doubt that I had Hodgkin's disease. After several days and nights of silent suffering, during which time I made Bette Davis' performance in "Dark Victory" look like an episode from the Mickey Mouse Club, I confided my fears to my husband.

He listened with what seemed to be utter sympathy to all my symptoms and, after a period of two seconds of deliberation, he told me I did not have Hodgkin's disease. "You have," he reported solemnly, "Buerger's disease—and if you don't stop smoking, all your fingers and toes will fall off."

Two years and twenty attached toes and fingers later, I know that diagnosis for the underhanded plot it was.

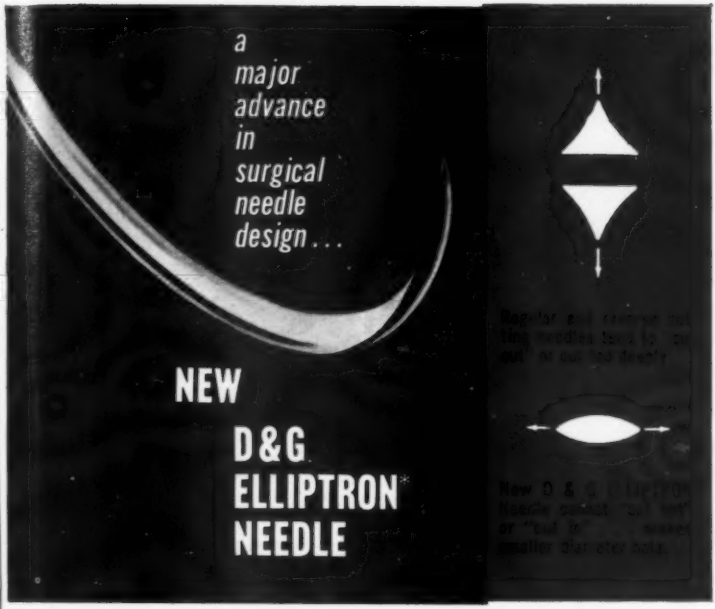
If you feel unwell after a fit of reading, just worsen and die, quietly and without fuss. There is no point to telling your husband and then dying with the pain of his callous indifference added to your suffering. Besides, if you happen to live, you won't feel so foolish.

Before we get off the reading kick, let's look into one interesting phase of this medical literature. You'll learn that patients written up in medical journals never die, they *expire*. The first few times I saw that term I thought it meant their hospital insurance had run out.

Since a CPC for a patient is something like the Congressional Medal in that it is pretty much a posthumous proposition, I find reading them terribly depressing. There is something so final in the heading "Twenty-second and last hospital day." This is especially true when the admitting physician finds everything normal except for some apparently minor triviality such as "hoarse voice. No neck vein distention." Of course, you learn by experience that this patient has had it.

To doctors, a word is worth a thousand pictures. In a really classy-type article (the kind with lots of graphs and statistics) patients *exsanguinate*—however, it seems to be mostly surgeons who are good spellers who toss that one around.

Also, a patient is never *fat* or even *overweight*. He (or she) is *obese*. *Ill* is evidently a much better word than *sick*. In other words, Anglo-Saxon-American English is



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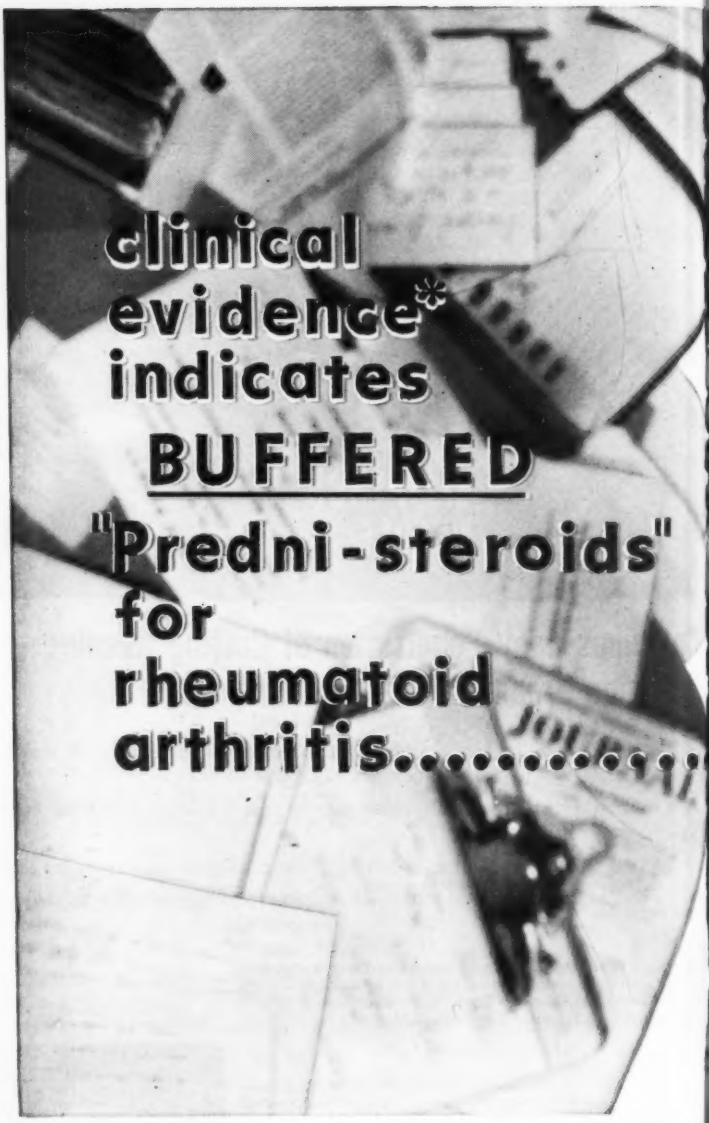
clinical
evidence*
indicates
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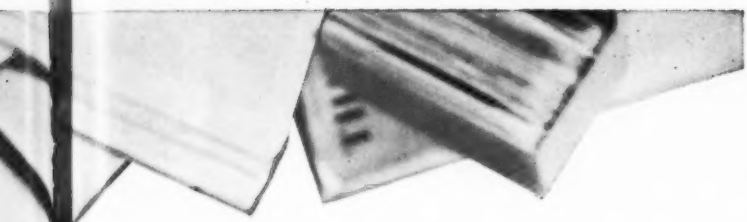

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despised by any medical journal worth its ink.

Samples

Another interesting clinical feature of *Resident's Spouse* is the sea of samples around us. Pills, capsules, tinctures, elixirs, suspensions, tablets and drops. They come in an endless variety of gorgeous colors and are for every disease known to man and a few known only to God. Exception: none are available to cure *Resident's Spouse.*

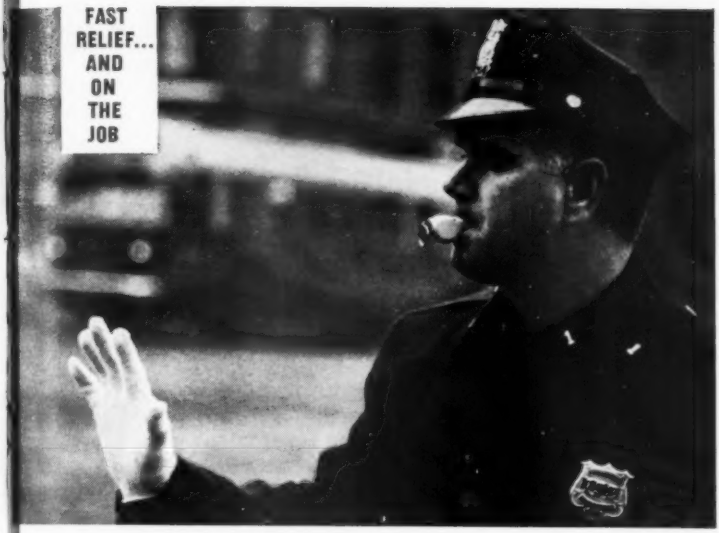
Your constant nightmare is to keep them out of the reach of small children (who get very tall by dragging a chair into position and then piling books, pillows and boxes on it). Locks on closets is standard operating procedure. Clothing is kept under the beds because the closets are full of samples.

Of course, you and you alone are responsible for stocking such mundane items as iodine ("What do you mean, 'don't use it'?"), band-aids, corn plasters, etc. You certainly didn't think your husband spent all those years in medical school just to become a domestic first aid station, did you?

Domestic harmony is easily achieved after a few months of *Resident's Spouse.* You learn, the hard way, that it is essential to the doctor struggling through residency to have peace and quiet during those rare moments he is at home. Screaming children, dripping faucets, cats with worms, a beat wife —these things are not nice to come home to. If you do have anything around the house like this, get rid of it. (Don't ask *me* how, I've got troubles enough of my own.)

I would like to go on with more helpful suggestions but my husband just called from the hospital and said that somewhere in those twelve boxes behind the furnace is a reprint entitled "The Watselpatsel Theory on Brain Lesions Caused by Headstanding in Damp Closets." He says he needs it right away because they think they've got a case on ward 5126-B and would I please look?

But quickly let me give you one final advantage in having the disease, *Resident's Spouse:* If you have a daughter and you ever discover her dating a medical student, you'll know just what to do. Shoot him!



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At a critical period in our nation's history, doctors were asked to keep the President's secret

A Time for Secrecy

Edward R. Bloomquist, M.D.

June, 1893. A warm summer breeze drifted across the deserted decks of the Fall River Line boat standing at its pier in New York's Hudson River. It was three o'clock in the afternoon, several hours before the boat was scheduled to leave. The crew, busy readying the ship for its voyage, paid little attention to two dignified figures who walked, almost too casually, to a prearranged appointment on the empty decks.

The men met, exchanged terse greetings, and began a discussion that, had it been overheard and repeated could easily have affected the financial future of the entire world.

It was, in a way, an unusual place for a medical consultation. But it had been expressly arranged this way by the prominent New York surgeon, Joseph D. Bryant.

His consultant was another surgeon, Dr. William W. Keen, of Philadelphia. Together, on that afternoon in June 1893, they paced back and forth across the deck, pausing now and then as their conversation centered upon a particular point of concern. Minutes later, after agreeing upon a plan of action, they marched grimly down the gangplank to set their ideas in motion. . . .

Depression

Grimness was not uncommon in 1893. The nation was in a financial turmoil created by the efforts of a determined group of people who wished to compromise national economy by obtaining free and unlimited coinage of silver.

The Republican administration, through high protective tariffs, had

accumulated large surpluses of gold in the treasury. But the depression, hitting particularly at the farmers who had had a series of unprofitable years, reduced the number of dollars in circulation. To some, the free coinage of silver, despite its devastating effect on national economy, seemed to be a quick answer to the procurement of quick money.

The Sherman Silver Purchase Act was subsequently introduced and passed. It required the Government to buy four and a half million ounces of silver each month, nearly the total national output, at market value. Notes issued against these purchases were redeemable in either silver or gold. Since this came at a time when the rest of the world was demonitizing silver as a basis of exchange, only fools took silver in exchange for their notes; the U. S. Treasury soon was being depleted of its gold reserve at an uncomfortable rate

Conflict

In the middle of this financial chaos, the two Democratic candidates for President and Vice President, were elected to the White House. They were individuals of conflicting opinions. The President, Grover Cleveland, strongly opposed the depreciation of currency value. In his inaugural speech, March 4, 1893, he declared he would exhaust all of his legal powers to prevent its continuance.

The Vice President, Illinois' Adlai E. Stevenson, held the opposite opinion.

Yet, these two men were faced with a financial panic described by Burton as one whose severity had rarely been surpassed.

Because of the continued depletion of the gold reserve, banks throughout America began and continued to fail; in February, one of America's solid old financial institutions, the Reading Railroad, failed and entered receivership.

Insecurity had become the dominant feature of America's personality. The nation was now a vast and anxious audience, apprehensively watching its chief executives who opposed each other's opinion on the silver controversy.

If Cleveland succeeded in his pro-

PHILADELPHIA PRESS
PRESIDENT HAD CANCER!
Gill '04

gram, the national economy would most likely be restored. But if for some reason Stevenson acquired the position of leadership, the outcome would be difficult to predict.

This problem was so obvious that "Nation" magazine in its August 3, 1893 issue, observed that a great deal was staked upon the continuance of one person's life. And the "Commercial and Financial Chronicle" admitted that the President was the one man who stood between America and absolute disaster.

The health of Grover Cleveland, therefore, was a matter of international significance.

But the physical condition of the President, rugged, robust individualist that he was, was not as solid as its surface appearance.

Diagnosis

Sometime in the latter part of April or in early May 1893, Cleveland became aware of an uncomfortable sensation in the left side of the roof of his mouth. It annoyed him, possibly because it interfered with his constant habit of chewing and smoking cigars, but more probably because as an intelligent man, he knew it shouldn't be there. On June 18, he summoned the official medical attendant for Government officers in Washington, Dr. Robert M. O'Reilly. There was little doubt in the physician's mind as to the diagnosis.

Extending from the molar teeth to within a third of an inch of the midline of the roof of the President's mouth was a large ulcer, nearly an inch in diameter. It encroached upon the soft palate and apparently was invading bone.

O'Reilly was sitting on a powder keg. As far as he was concerned, the President had a cancer in his mouth.

To verify his diagnosis, O'Reilly sent a biopsy under a fictitious name to the Army Pathology Laboratory. To further protect his position, he immediately called for New York surgeon, Dr. Joseph D. Bryant, an intimate friend of the President. Pathologists and surgeons concurred.

Cleveland wanted a straightforward answer. And Joseph Bryant, old friend and competent surgeon, gave it to him. "Were it in my mouth," he said, "I would have it out at once!"

This was enough for the President.

Performing radical cancer surgery on a patient is one thing. Accomplishing it on the President of the United States is another. But taking the life of a man into one's hands, when upon that life rested the financial economy of America and quite possibly the world, presented an overwhelming responsibility.

Added to this, it was felt that secrecy was of vital importance.

And it was for this reason that Bryant and Keen had met on the Fall River night boat. For in this out-of-the-way corner, on these deserted decks they felt they could

best preserve the confidential nature of their consultation.

Yacht

Knowing his physicians had finished their preparations, the Chief Executive set into motion a plan whereby his surgery would be accomplished without the public's knowledge of its occurrence which might tip the scales to the negative side in a nation already on the verge of panic.

Cleveland had an advantage no longer available to occupants of the White House. First, he could come and go with relative freedom inasmuch as at this time the President was not constantly surrounded by secret service guards. Secondly, the press in 1893 did not have quite the access to the President's intimate anatomy or physiological functions which they possess today.

Sending for his trusted friend, Secretary of War, Colonel Daniel Lamont, he made plans to undergo surgery while at the same time maintaining his hold on the reins of a shaky government. The operation was to be performed in the isolated salon of the *Oneida*, a yacht owned by the President's friend, Commodore Elias C. Benedict. Optimistically, the doctors permitted Cleveland to plan his return to Washington on August 7. With this goal in mind, the twenty-second President of the United States issued a special call to Congress, asking that it convene on that date to consider and, if they honored his request, grant an absolute repeal of the Sherman Act. And on the same day, June 30, 1893, he left for his appointment with the surgeons.

Distinguished guest

Under the impression that the President was suffering from two

About The Author

A graduate of the College of Medical Evangelists in 1948, Dr. Bloomquist interned at the White Memorial Hospital in Los Angeles. Four years of a successful general practice was interrupted by a two year stint as chief of anesthesiology at an Air Force hospital. The author completed a two-year residency in anesthesiology in 1956 and is presently in private practice. On the editorial staff of your journal, Dr. Bloomquist has previously appeared in RESIDENT PHYSICIAN with "I Choose Anesthesiology," "Operation Narcotics," a factual report on narcotic addiction in the U.S., and "A Time To Die," (December 1957) which concerned Messrs. Burke and Hare of cadaver collecting fame. A member of the American Medical Writers Association, the author is also on the staffs of a number of medical journals and has had published nearly 50 medical and lay articles.

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1. Pulaski, E. J., and Isokane, R. K.: Surg., Gynec. & Obst. 104:310, March 1957.
2. Petersdorf, R. G., Curtin, J. A., and Bennett, I. L.: Arch. Int. Med. 100:927, December 1957.

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badly ulcerated teeth which had to be removed under conditions that would provide both privacy and absolute rest because of the danger of blood poisoning, the crew of the *Oneida* readied the ship for their distinguished guest.

With Dr. Bryant's careful supervision, the salon of the yacht was converted into an operating room, disinfected as much as possible, and provided with operating table, instruments, dressings and other equipment necessary for the forthcoming event.

Three other men were taken into confidence. Bryant's surgical associate, Dr. John F. Erdmann and two others whose function would be to administer anesthesia and observe the general condition of the President during surgery. One of these was a physiologist, Dr. Edward G. Janeway. The other, a Manhattan dentist, Dr. Ferdinand Hasbrouck, chosen because of his ability to administer nitrous oxide.

With as little fuss as possible, the doctors were taken to the yacht. An hour after their arrival, Dr. Bryant and his patient, traveling by train from Washington, arrived in New York where they took a carriage to the pier where the *Oneida* was docked.

The President was in a jovial and relatively unapprehensive mood. He spent the evening chatting with his physicians, raising his temper only at such times as he thought of the constant office seekers which he complained haunted even his dreams.

He slept well that evening without sedation. The following morning was spent undergoing physical examinations by Drs. Janeway and Keen, and repeatedly cleaning and disinfecting his mouth. The doctors were satisfied that his condition was relatively good despite the constant emotional and physical demands of his position. And the absence of enlarged lymph nodes that might indicate spread of the disease helped ease the tension.

Anesthetic

They were more anxious about the anesthetic than anything else. Their fifty-six-year-old patient was definitely overweight with a tendency toward high blood pressure. Keen, having had at least one patient die of a stroke during anesthesia, was apprehensive about this complication.

Hasbrouck, on the other hand, had the problem of aspiration of material from the operative site and that resulting from regurgitation from the stomach. Endotracheal anesthesia was not in significant use at that time and the patient, obese and possessing a short thick neck, was a good candidate for strangling should something go awry with the anesthetic.

Further, Hasbrouck feared that nitrous oxide alone would be inadequate to maintain a pain free existence through the heavy surgery.

Planning ahead, it was decided to begin the surgery under nitrous oxide, then switch to ether as it was indicated.

Finally, the surgeons were ready to start. Commodore Benedict headed his ship at half speed up the East River, continuing this course throughout the surgery. With the exception of the patient and his physicians, only a steward was permitted near the surgery; it was his duty to supply water and run errands as necessity arose.

At 1 P.M., Hasbrouck administered the nitrous oxide, then stepped around and removed the President's left upper bicuspids. Following this, Dr. Bryant began his incisions, carefully staying within the mouth so scars would not appear on the face itself. He was assisted by Drs. Keen and Erdmann, Dr. Janeway being kept occupied watching the patient's progress under anesthesia.

At 1:14 P.M., Dr. O'Reilly, concurring with Hasbrouck that the time had come to change anesthetics, began the administration of ether.

The entire upper left jaw from the bicuspids to beyond the last molar tooth was removed. The floor of the orbit was examined, found uninvolved and so left alone. This was most fortunate inasmuch as its removal would probably have affected the appearance of the President's left eye.

The antrum, however, was found to be filled with a soft grey gelatinous mass which Bryant felt was sarcoma, an impression later confirmed by pathologist William H. Welch of Johns Hopkins. This area was curretted and cauterized. In addition, portions of the soft palate were removed.

The entire operation was accomplished by incisions within the President's mouth. This was made possible to a large extent by a special cheek retractor which Dr. Keen had acquired on a trip to Paris in 1866. The lack of external marks was, of course, vitally important if the President was to maintain the secrecy he felt necessary.

Bleeding was controlled by cautery, hemorrhage being kept to less than six ounces.

By 1:55 P.M., the ordeal was over. Carefully packing the cavity to prevent further hemorrhage, the doctors returned their patient to his room. An hour later he received a sixth of a grain of morphine for pain. This was the only narcotic ever required.

Postoperative

The postoperative course was good, the temperature rising to 100.8 degrees the first day, then receding. Early next morning, the *Oneida* docked long enough to drop Dr. Hasbrouck off so he could keep an already overdue appointment to administer another anesthetic. By July 3, the President was up and around, capable of talking fairly well as long as the pack remained in place. When it was removed, how-

ever, he sounded much like a severe cleft palate patient.

To correct this speech difficulty, the services of another dentist, Dr. Klasson C. Gibson, were engaged. He formed a special prosthesis of vulcanized rubber which permitted the President to talk without discomfort or speech impairment. On July 5, Cleveland walked unassisted from the yacht to his summer home, Grey Gables, on Buzzard's Bay.

As the days passed, Dr. Bryant became dissatisfied with the appearance of the wound, feeling some cancer was still present. To be certain he picked up Drs. Janeway, Erdmann and Keen and on July 17, the President was returned to the *Oneida* for additional surgery. It proved quite successful. By July 19, Cleveland was walking again.

The secret, however, was nearly inadvertently given away by Dr. Keen as he disembarked from the *Oneida* following the second surgery. Leaving the ship he met, to his complete dismay, his brother-in-law, Spencer Bordon, who expressed curiosity as to the reason for Keen's presence so far from home. Keen passed the incident off lightly, saying he had been called in on consultation. At a later date, when a newsbreak did occur, Bordon connected their chance meeting with the story; he was convinced in his own mind that Keen had, indeed, operated upon the President.

Cleveland rested for a time at Grey Gables, recovering sufficiently to return to Washington by August 5. Congress convened on August 7, and in response to the President's plea the House repealed the Sherman Act by a vote of 239-101. It was then sent to the Senate.

At this crucial point, near disaster occurred. Despite extreme precautions, news of the surgery leaked to the press. This resulted from an apparently honest and confidential conversation between Hasbrouck and a surgeon, Leander P. Jones. In order to care for the President, Dr. Hasbrouck had to keep Jones waiting for a previously scheduled anesthetic. Jones was upset and Hasbrouck felt he owed him a complete explanation.

For reasons which are unknown, Jones broke the confidential information in a report to a friend, Mr. E. J. Edwards, New York correspondent for the *Philadelphia Press*. Under the pen name, Holland, Edwards exposed the whole story. The newspaper carefully checked its sources, the most cooperative of which was Dr. Hasbrouck. Convinced the facts were publicly known, he willingly related his version in an interview with Holland.

Thus it was that at the crucial point of the silver controversy, Holland's scoop was published. Despite its appearance, the Senate on October 30 voted 48-37 to repeal the Sherman Act.

Much to the discomfort of the *Philadelphia Press* and its energetic reporter, the others associated with

the incident minimized the surgery. The report of a radical procedure was denounced by the White House which insisted the problem had been one of bad teeth which needed extraction.

There were, of course, many who suspected the truth. Not too long before, another cigar chewing President, Ulysses S. Grant, had died after a painful protracted illness incident to a mouth cancer. The White House had denied this, too.

But sufficient doubt was cast concerning the nature of the surgery so that the premature release of the surgery failed to do any harm to the President's program. Cleveland returned to Grey Gables on August 12, resting and recuperating until the end of the month. His physical condition by then, along with a lack of visible scars and his demonstrated ability to speak clearly, completely belied the press release of his illness. When he appeared on September 5 to open the first Pan American Medical Congress his voice was clearer and even more resonant than it had been six months before at his inauguration.

Two weeks later, he spoke at the Centenary founding of the City of Washington. Careful and close scrutiny by hundreds of people who came in contact with him on this event failed to reveal any evidence of the reported surgery.

In the middle of October, Dr. Gibson perfected a second prothesis for Mr. Cleveland which the President described as being far more comfortable and easier to clean than the first. Further, his wife was happy because his voice and articulation had improved.

End to secrecy

By 1896, Cleveland was able to joke about his ordeal. Laughingly, he remarked in a letter to Gibson that he had recently noticed a small piece of gold which had worked its way out of a tooth next to the operative sight. This, he felt, was merely another indication of how completely he had been on the gold standard.

Much to the satisfaction of his surgeons, the secret operation was quite successful. Dr. Bryant's carefully written medical records reveal the comment on September 1, 1893, that the wound area was "all healed."

On September 9, some of the President's tremendous burden of public pressure and physical discomfort was mollified by the arrival of a welcome baby daughter.

Grover Cleveland lived on until June 26, 1908. He was interred at Princeton Cemetery, the victim not of cancer but of a heart attack.

Yet not until 25 years after the incident did Dr. Keen feel that the time had come to tell the true story. This he did, both in book form and in an article appearing in the September 22, 1917 edition of the *Saturday Evening Post*.

The time for secrecy had ended.

WASHINGTON REPORT

Current news items of special interest to residents, interns and reserve medical officers, as reported directly to your journal by the Army, Air Force, Navy, Public Health Service and Veterans Administration.

Veterans Administration

CLINICAL INVESTIGATOR . . . Four additional Veterans Administration Clinical Investigators were appointed recently. The new investigators are Dr. Robert P. Arthur, VA Hospital, Philadelphia; Dr. Robert P. Cameron, VA Hospital, New Orleans; Dr. Seymour Dayton, VA Center, Los Angeles; and Dr. Alfred Doscherholmen, VA Hospital, Minneapolis.

Four more investigators have been selected for appointment July 1, 1958. They are: Dr. James S. Arnold, VA Hospital, Salt Lake City; Dr. Lawrence M. Heideman, VA Hospital, Seattle; Dr. Lindy F. Kumagai, VA Hospital, Salt Lake City; and Dr. James O. Wynn, Jr., VA Hospital, Durham, North Carolina. This will bring the total number of Clinical Investigators on duty to 31 by July 1, 1958.

The response from medical school faculties and individual leaders in American medicine has supported the VA's conviction that its Clinical Investigator Program fills a need in medical research training, a need not met through the various forms of research support available.

The Research Service and the Education Service of the Veterans Administration share the responsibility for planning this program. Funds for salaries, technical help, and supplies and equipment are provided from the Research budget. The program, administered by the Education Service, provides an op-

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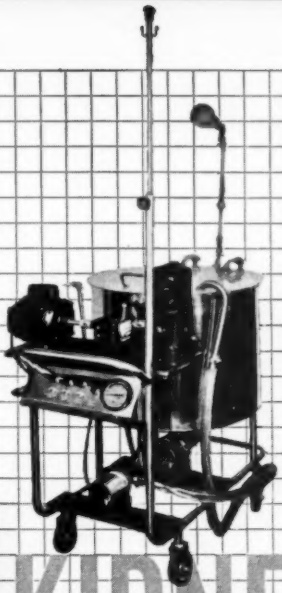

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portunity for further training in research for carefully selected individuals who have demonstrated a competence and aptitude for research. During the period of appointment it is anticipated that most of these physicians will have developed into capable independent investigators.

Candidates must have completed their formal residency training requirements. This eliminates from eligibility many who normally seek research fellowships prior to completion of residency training. Since most of the candidates for this position will not be fully qualified, independent investigators, they are not ready for the Career Investigatorships now available from Government and private sources. Thus, the clinical program does not duplicate or encroach on existing Government and foundation programs.

Clinical Investigators are required to maintain contact with clinical medicine in a hospital environment. Part of their time (not in excess of 25%) is spent in a responsible relationship to the patient care program. They become full-time staff members with the same relationship to hospital management and professional staff as any other full-time physician or dentist.

Each candidate selects a Preceptor who will follow his career throughout the period of appointment. The Preceptor may be a more senior VA staff physician or a member of the affiliated medical school faculty. He should be interested and willing to accept responsibility for personal consultation and guidance of the investigator, but he must not direct his research activities per se. Clinical Investigator appointments are made for a period up to three years; other than the standard requirements for Government employment, the most important determining factors are professional qualifications and previous thorough demonstration of research potential and aptitude either during residency or full-time employment.

A Clinical Investigator's salary may not exceed intermediate grade ($8990) although he may receive an additional 25% if certified by an American specialty board. The candidates must be interested in problems of particular importance in the care of veteran patients in fields basic to psychiatry and neurology, cardiovascular diseases, cancer, degenerative diseases and problems involving the aging process. Maximum freedom of choice of subject is allowed within these broad categories.

Candidates are selected by a national committee of consultants composed of both deans and department heads of medical schools. Appointments are made semiannually in January and July. It is anticipated that appointments to this select group of investigators will be limited to ten to twenty each year.

The development of this activity has indicated that it will be of material benefit to the health program

of the nation even though focused primarily on problems of veterans. The VA points out that the Clinical Investigator Program "represents a new phase in the evolution of our philosophy on the relationship between education and research and their interrelated roles as essential elements in providing superior medical care."

Berry Plan

DEFERMENTS . . . Deferments are available in otolaryngology, pathology, general practice, preventive medicine and public health, occupational medicine, and physical medicine and rehabilitation under this year's Berry Plan. Interns interested in a deferment in one of these specialties should write: Dr. Frank B. Berry, Health and Medical, Department of Defense, Washington 25, D. C.

Air Force

NEWEST HOSPITAL . . . The United States Air Force recently dedicated its newest hospital at Keesler Air Force Base, Biloxi, Mississippi.

A five-story, reinforced concrete building, completely air-conditioned, it contains 352 beds expandable to 500 by the addition of one ward wing. Construction was begun January 1954 and completed in September 1957. This is the 18th new hospital completed of 43 planned for the United States Air Force under the USAF Military Construction Program.

Keesler Hospital offers complete medical care to all Air Force military personnel, dependents, and retired personnel in the Biloxi area. The Keesler Hospital has three main professional services—medicine, surgery, and aviation medicine. The medical service includes internal medicine, gastroenterology, cardiovascular, communicable diseases, pediatrics, dermatology, radiology, pathology, laboratory, neuropsychiatric, physical therapy and occupational therapy. The laboratory consists of: bacteriology, sterilization, chemistry, urinalysis, serology and hematology.

The surgical services consist of

Keesler Air Force Base Hospital, latest and number eighteen of forty-three hospitals planned for Air Force construction.

general surgery, urology, orthopedic, EENT, obstetrics and gynecology, maxillo-facial, and supervision of the anesthesiology section. This hospital was recently designated as an orthopedic center for the southeastern part of the United States. The aviation medical service cares for all personnel on flight status. Major General Olin F. McIlnay, USAF (MC), Deputy Surgeon General of the Air Force gave the dedicatory address and presented the key to the new hospital to Brigadier General John R. Sutherland, Keesler Air Force Base Commander. Keesler is a part of the Air Training Command responsibility. Colonel James S. Fisackerly, USAF (MC), is Commander of this newest AF Hospital.

Army

CLINICAL CLERKS . . . The Army Clinical Clerkship Training Program is designed to maintain liaison between the medical schools within the United States and the Army Medical Service. The objectives of this program are to familiarize junior and senior medical students with the high standards of military medicine as practiced in Army hospitals and to stimulate interest in a career in the Army Medical Service in those students who have completed their sophomore or junior year in medical school.

Participants in the program this year will be medical students at the sophomore-junior and junior-senior level, who now hold commissions as lieutenants in the Medical Service Corps, Army Reserve, or will be commissioned in sufficient time to participate in the program. A limited number may also participate in the program as "student employees" under Civil Service. Students in Army Reserve status who are selected for this clinical clerkship must volunteer to perform not more than 60 days of active duty for train-

ing, including travel. Students who are assigned to a USAR Control Group (Annual Training) may fulfill their annual requirement for active Reserve participation by performing the above period of active duty for training. Students who are assigned to a TOE or TD Reserve Unit, or a USAR School, may perform this training "in lieu of" the annual unit training (summer camp) requirement with their units.

This year's program, beginning about 1 July 1958, will consist of approximately eight weeks of instruction at Army teaching hospitals. The period will be divided into two equal parts; one embracing internal medicine and its subspecialties, the other surgery and its subspecialties, with military medicine and other military instruction integrated throughout the eight week period. A preventive medicine program will also be available at Fort Lewis, Washington; Fort Ord, California; Fort Benning, Georgia; U. S. Army Environmental Health Laboratory, Edgewood, Maryland. Research clerkships will be available in a limited number for selected individuals at Walter Reed Army Institute of Research, Walter Reed Army Medical Center, Washington, D. C.

A student, who is selected for a clerkship between his sophomore-junior year, is not eligible to apply for the clerkship between his junior-senior year. If you possess the qualifications and are interested, necessary application forms and instructions may be obtained by writing to the Army Medical Service Personnel Procurement Officer in your Army area, or you may write to The Surgeon General, Department of the Army, Washington 25, D. C.

YANG AND YIN

Medicine in China has been dominated for the past 2,500 years by the philosophy of Lao Tzu, Chinese philosopher and founder of the Taoist religion. Lao Tzu's philosophy concerns two cosmic and ethical forces, Yang and Yin, the positive and negative elements of the universe. Yang is the strong, active, male force represented in health, life, light and heat. Yin is weak, passive, the female element typified by disease, death, darkness and cold. The harmony of Yang and Yin produces order, their disharmony means disorder, confusion, unrest. This philosophical concept of ethical forces in control of all things has its application in all science, religion and art in China.

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*Bigg, J.P.: Digest Ophth. & Otolaryng. 20:28 (Nov.) 1957.

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RP REVIEWS BOOKS

About Doctors

Conducted by SAUL A. KUCHINSKY

A MAN AGAINST INSANITY. *de Kruif, Paul. N.Y., Harcourt, Brace,* 1957. 246 pp. $3.95.

The most popular medical biographer of our day has written his latest book not on an historic figure but on a virtual unknown, Dr. John T. Ferguson, a pioneer in treatment of psychosis with drugs and "tender loving care."

Jack Ferguson is a resident physician at Traverse City State Hospital, Michigan. He himself, among other misfortunes, has been institutionalized five times for barbiturate psychosis. He knows his patients from the inside out.

The story becomes doubly compelling when the author, the famed Dr. Paul de Kruif, declares himself an unstable personality of long standing and currently under Ferguson's mental chemotherapy. The impact of these two personal involvements plus the well-known de Kruif style—"he writes like a house on fire"—add to an already exciting theme, the search for a curative drug against insanity.

That this just misses being de Kruif's best effort lies in the repetitive nature of the search, as drug after drug succeeds only partially. We should have liked a less wearing technique and, also, more about the

ves and reactions of the patients. But there is evoked in the telling a genuine sympathy and admiration for a man in the forefront of the revolutionary work with hospitalized psychotics and for his therapy of drugs plus "a pinch of understanding, a measure of kindness, a portion of love."

THE HORIZONTAL HOUR. *Marks, Robert W. N. Y., McKay,* 1957. 346 pp. $4.50.

The psychoanalytic novel is not exemplified here so much as the risque detective story in psychiatric setting. As detective story it is sometimes diverting; as psychoanalytic novel it is submerged in a welter of the author's verbalizing and cultural name-dropping. As either it is wrecked by an improbability of situation and a plot in which it is difficult, after a time, to separate the zigs from the zags.

Picture, if you can, a psychiatrist who makes of his patients a menage of near-wife, wife and various kinds of confidant. Add, as you already must suspect, that the psychiatrist goes mad himself and is revealed as the beast who has been destroying his patients. Throw in some closely determined love-making, the perplexing problem of who it is that is mad (the one interestingly delineated portion of the book) and gobs of "knowing" observation on the great names of music, literature, art, history. Then you have it, or have had it, the arty, detective-story, psychoanalytical novel. but don't say we didn't warn you.

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Mediquiz

Questions are from a civil service examination given to candidates for physician appointments in municipal government.

Answers on page 194.

1. In making a diagnosis of malaria, the best time to find the parasite in the blood stream is: (A) during a chill; (B) just before a chill; (C) immediately after a chill; (D) twenty-four hours after a chill.

2. The red cells of a malaria patient often reveals: (A) normochromic anemia; (B) a microcytic hemolytic anemia; (C) a macrocytic hemolytic anemia; (D) normal.

3. The parasite may be seen in malaria: (A) within the erythrocyte; (B) within the leukocyte; (C) within the leukocyte nucleus; (D) as extracellular.

4. Which of the following has been encountered in Northern United States: (A) P. vivax; (B) P. falciparum; (C) P. malariae; (D) P. ovale.

5. Varicella (chickenpox) is a disease due to a virus that is closely related to: (A) smallpox; (B) herpes zoster; (C) herpes simplex.

6. An unusual contraindication to smallpox vaccination is: (A) allergy to cows milk; (B) allergy to eggs; (C) the presence of psoriasis in the patient or his family; (D) the presence of eczema in the patient or his family.

7. The best single aid in making a diagnosis of allergy is: (A) skin testing; (B) complete history and physical examination; (C) finding eosinophiles in the peripheral blood.

8. Which of the following is not a typical finding in the blood picture in allergic conditions: (A) under 3% eosinophiles; (B) under 6% eosinophiles; (C) under 9% eosinophiles; (D) over 20% eosinophiles.

9. In the etiology of asthma, endogenous factors play the more impor-

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gastrointestinal infections
genitourinary infections
miscellaneous infections

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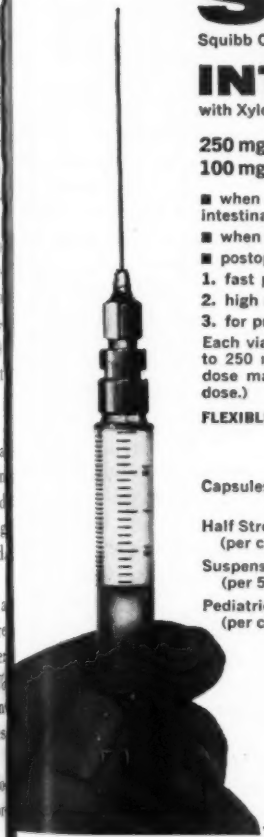

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tant role in the age group: (A) under 5 years; (B) 5-15 years; (C) 15-35 years; (D) above 35 years.

10. Most patients with gout have blood findings of: (A) increased calcium; (B) decreased calcium; (C) increased uric acid level; (D) decreased uric acid level.

11. The blood uric acid level: (A) rises during an attack of gout; (B) decreases during an attack; (C) is not altered by an attack.

12. The urinary uric acid is affected by an attack of gout by: (A) rising before and decreasing after attack; (B) rising before and remaining elevated after attack; (C) decreasing before and rising after attack; (D) decreasing before and remaining low after attack.

13. In rickets, the typical blood findings are: (A) decreased serum phosphate, increased serum phosphotase and increased calcium; (B) decreased serum phosphate, decreased serum phosphotase and normal calcium; (C) increased serum phosphate, decreased serum phosphotase and normal calcium; (D) decreased serum phosphate, increased serum phosphotase and normal calcium.

14. The laboratory findings in hypoparathyroidism are: (A) high serum phosphorus, low serum calcium, minimal or absent urinary calcium; (B) high serum phosphorus, low serum calcium, increased urinary calcium; (C) low serum phosphorus, high serum calcium, increased urinary calcium.

15. The most common cause of tetany clinically is: (A) hyperparathyroidism; (B) hypoparathyroidism; (C) hypoventilation; (D) hyperventilation.

16. The typical findings in Addison's disease are: (A) decrease in serum sodium, decrease in serum potassium, decrease in blood sugar; (B) increase in serum sodium, increase in serum potassium, increase in blood sugar; (C) decrease in serum sodium, increase in serum potassium, decrease in blood sugar.

17. The most common cause of obesity is: (A) hypothyroidism; (B) hypopituitarism; (C) overeating; (D) Frohlich's syndrome.

18. Funduscopic findings of retinal hemorrhages in a child with a week history of a head injury should make one suspicious of: (A) epidural hemorrhage; (B) subdural hemorrhage; (C) subarachnoid hemorrhage; (D) skull fracture.

19. Spinal tap may occasionally be used therapeutically in the treatment of: (A) epidural hemorrhage; (B) subdural hemorrhage; (C) subarachnoid hemorrhage; (D) skull fracture.

10. In respiratory acidosis the: (A) serum bicarbonate is decreased and pH is decreased; (B) serum bicarbonate is increased and pH is increased; (C) serum bicarbonate is not important and pH is decreased; (D) serum bicarbonate is not important and pH is increased.

11. In metabolic alkalosis: (A) serum bicarbonate is decreased and pH is decreased; (B) serum bicarbonate is increased and pH is increased; (C) serum bicarbonate is not important and pH is decreased; (D) serum bicarbonate is not important and pH is increased.

12. The direct Coombs' test is often positive in: (A) Cooley's anemia; (B) congenital hemolytic anemia; (C) acquired hemolytic anemia; (D) sickle cell anemia.

13. Steroids are often helpful in the therapy of: (A) Cooley's anemia; (B) congenital hemolytic anemia; (C) acquired hemolytic anemia; (D) sickle cell anemia.

14. Atropine is strongly contraindicated in a case of suspected: (A) interstitial keratitis; (B) foreign body in the eye; (C) primary glaucoma; (D) acute conjunctivitis.

15. In typhoid fever, the urine and stool culture may not be positive until after the: (A) first week; (B) second week; (C) third week; (D) second month.

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26. The encephalitis that offers the best prognosis is that which may follow: (A) measles; (B) chickenpox; (C) mumps; (D) pertussis.

27. The diagnostic test for myasthenia gravis is an excellent improvement in 30 minutes following a dose of: (A) prostigmin; (B) atropine; (C) adrenalin; (D) neosynephrine.

28. The finding of a wrist drop with an adducted thumb may be an evidence of a: (A) median nerve injury; (B) radial nerve injury; (C) ulna nerve injury.

29. In unilateral conduction deafness, one hears best the vibration of a tuning fork held on the median line of the skull in: (A) the affected ear; (B) the normal ear; (C) both ears equally well; (D) not heard at all.

30. A 45-year-old male is forty-five pounds overweight for his age and height. He has no symptoms and is being examined solely in connection with employment. Several of his urine specimens are tested and show from 0.25% glucose to none at different times and are negative for ketone bodies. A fasting blood sugar (venous) is 160 mgms per 100 cc. The correct way to manage this patient at this stage is to: (A) reduce his weight by diet; (B) reduce his weight by diet and thyroid medication; (C) allow him to follow his usual diet and routine — i.e., no treatment is necessary; (D) use insulin and a diet of the same caloric content as he has been eating habitually (securing urine tests that are sugar-free and blood sugars that are normal).

31. In hyperthyroidism there is: (A) need for increased vitamin B content in the diet given the patient; (B) need for decreased vitamin B content in the diet; (C) no need for change in vitamin B content of diet as compared to normal; (D) no need for an increase in vitamin B content of diet unless iodine therapy is resorted to.

32. The drug of choice for the termination of an acute attack of vivax malaria is: (A) quinine; (B) quinacrine (atabrine); (C) totaquine; (D) plasmochin.

33. Cardiovascular syphilis is usually syphilis of the: (A) peripheral arteries; (B) coronary arteries; (C) myocardium; (D) aorta.

"MEDIQUIZ" ANSWERS

1 (B), 2 (C), 3 (A), 4 (A), 5 (B), 6 (D), 7 (B), 8 (D), 9 (C), 10 (C), 11 (C), 12 (A), 13 (D), 14 (A), 15 (D), 16 (C), 17 (C), 18 (B), 19 (C), 20 (C), 21 (B), 22 (C), 23 (C), 24 (C), 25 (C), 26 (C), 27 (A), 28 (B), 29 (A), 30 (A), 31 (A), 32 (B), 33 (D).

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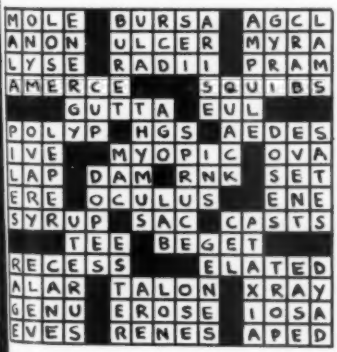
RESIDENT RELAXER

(puzzle on page 25)



VIEWBOX DIAGNOSIS

(from page 21)

NEUROTROPHIC JOINT

Note marked disorganization, fragmentation, eburnation and malalignment, associated with overall enlargement of the joint.

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